

CURRICULUM VITAE - Michael E. Cain, M.D.

Date: December 6, 2006

PERSONAL INFORMATION

Sex: Male
Date of Birth: November 15, 1949
Place of Birth: Philadelphia, Pennsylvania

CITIZENSHIP: USA

ADDRESS AND TELEPHONE NUMBERS

Office: University at Buffalo
School of Medicine and Biomedical Sciences
Biomedical Education Building Room 155
3435 Main Street
Buffalo, New York 14214-3013
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(716) 829-2179 (Fax)
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Orchard Park, New York 14127
(716) 662-7086

PRESENT POSITION

Dean, School of Medicine and Biomedical Sciences
Professor of Medicine
Professor of Biomedical Engineering (pending)
University at Buffalo
Buffalo, New York

EDUCATION

Undergraduate

1967-71 B.A., Cum Laude, Gettysburg College,
Gettysburg, Pennsylvania

Graduate

1971-75 M.D., George Washington University School of Medicine,
Washington, D.C.

Postgraduate

1975-76 Intern in Medicine,
Washington University School of Medicine,
Barnes Hospital,
St. Louis, Missouri

1976-77 Junior Assistant Resident in Medicine,
Washington University School of Medicine,
Barnes Hospital,
St. Louis, Missouri

Curriculum Vitae - Michael E. Cain, M.D.**EDUCATION****Postgraduate (continued)**

- 1977-78 Research Fellow,
Cardiovascular Division,
Washington University School of Medicine,
St. Louis, Missouri
- 1979-80 Clinical Cardiology Fellow,
Cardiovascular Division,
Barnes Hospital,
Washington University School of Medicine,
St. Louis, Missouri
- 1979-80 Research Instructor,
Cardiovascular Division,
Washington University School of Medicine,
St. Louis, Missouri
- 1980-81 Clinical/Research Fellow,
Clinical Cardiac Electrophysiology Laboratory,
Cardiovascular Section,
University of Pennsylvania School of Medicine,
Philadelphia, Pennsylvania

ACADEMIC POSITIONS/EMPLOYMENT

- 1981-87 Assistant Professor of Medicine,
Washington University School of Medicine,
St. Louis, Missouri
- 1987-93 Associate Professor of Medicine,
Washington University School of Medicine,
St. Louis, Missouri
- 1993-94 Professor of Medicine,
Washington University School of Medicine,
St. Louis, Missouri
- 1994-06 Tobias and Hortense Lewin Professor of Medicine,
Washington University School of Medicine,
St. Louis, Missouri
- 1999-06 Professor of Biomedical Engineering
Washington University,
St. Louis, Missouri
- 2006- present Professor of Medicine
University at Buffalo
Buffalo, New York

Curriculum Vitae - Michael E. Cain, M.D.**UNIVERSITY AND HOSPITAL APPOINTMENTS AND COMMITTEES****Appointments**

- 1981-94 Director, Clinical Cardiac Electrophysiology Laboratory,
Barnes Hospital,
Washington University School of Medicine,
St. Louis, Missouri
- 1993-94 Interim Director, Cardiovascular Division,
Washington University School of Medicine,
St. Louis, Missouri
- 1994-06 Director, Cardiovascular Division,
Washington University School of Medicine,
Barnes-Jewish Hospital,
St. Louis, Missouri
- 1994-06 Director, Arrhythmia Services,
Washington University School of Medicine,
Barnes-Jewish Hospital,
St. Louis, Missouri
- 2000-06 President, Board of Directors
Heart Care Institute,
Washington University School of Medicine,
Barnes-Jewish Hospital,
St. Louis, Missouri
- 2006- present Dean, School of Medicine and Biomedical Sciences
University at Buffalo
Buffalo, New York

Committees

- 1993-97 Member, Promotions Committee, Department of Medicine,
Washington University School of Medicine, St. Louis, Missouri
- 1996-06 Member, Heart Services Clinical Service Line Steering Committee,
Barnes-Jewish Hospital/Washington University School of Medicine
Joint Office of Strategic Planning, St. Louis, Missouri
- 1996-00 Co-chair, Clinical Service Delivery Design Team, Heart Services
Clinical Service Line, Barnes-Jewish Hospital/Washington University
School of Medicine Joint Office of Strategic Planning, St. Louis, Missouri
- 1996-00 Co-chair, Ambulatory Operations Design Team, Ambulatory Care Center,
Barnes-Jewish Hospital/Washington University School of Medicine, St. Louis, Missouri
- 1997- 99 Chairman, Barnes-Jewish Hospital/Washington University School of Medicine
Medical Cost Management Cardiovascular Diseases Design Team, St. Louis, Missouri

Curriculum Vitae - Michael E. Cain, M.D.**UNIVERSITY AND HOSPITAL APPOINTMENTS AND COMMITTEES****Committees (continued)**

1997- 00 Member, Faculty Practice Plan Strategic Planning Committee
Washington University School of Medicine, St. Louis, Missouri

2000-03 Member, Faculty Practice Plan Board
Washington University School of Medicine, St. Louis, Missouri

2005-06 Member, Radiation Safety Committee
Washington University School of Medicine, St. Louis, Missouri

MEDICAL LICENSURE

1976 Missouri R7237
1979 Pennsylvania MD 023254-E
2006 New York (pending)

BOARD CERTIFICATION

1976 Diplomate, National Board of Medical Examiners
1978 Diplomate, American Board of Internal Medicine
1983 Diplomate, American Board of Internal Medicine,
Subspecialty Board in Cardiovascular Diseases
1992-05 Diplomate, American Board of Internal Medicine,
Subspecialty Board in Clinical Cardiac Electrophysiology and Pacing
2005-15 Diplomate, American Board of Internal Medicine, Subspecialty Board
in Clinical Cardiac Electrophysiology and Pacing (recertification)

MILITARY SERVICE None**HONORS AND AWARDS**

1971 George B. Stoner Award, Gettysburg College
1972 William Beaumont Medical Research Society,
George Washington University School of Medicine
1973 Washington Heart Association Student Research Grant,
Washington, D.C.
1974 Alpha Omega Alpha,
George Washington University School of Medicine
1975 Calvin Klopp Award, William Beaumont Medical Research Society
George Washington University School of Medicine
1980 American Heart Association Fellowship Award
1982 Washington University School of Medicine
Golden Apple Award for Teacher of the Year
1984 Fellow, American College of Cardiology
1985 Fellow, Council on Clinical Cardiology of the American Heart Association
1993- present Member, Association of Professors of Cardiology
1995- present Member, Central Society for Clinical Research
1997- present Member, Association of University Cardiologists
1998- present Member, Board of Trustees, North American Society of Pacing and Electrophysiology

Curriculum Vitae - Michael E. Cain, M.D.**HONORS AND AWARDS (continued)**

- 1999-00 Secretary, Board of Trustees, North American Society of Pacing and Electrophysiology
 2000- present Member, Scientific Board, The Sarnoff Endowment for Cardiovascular Science
 2000-01 Second Vice President, Board of Trustees, North American Society of Pacing and Electrophysiology
 2000 Arthur E. Strauss Award, American Heart Association
 2001-02 First Vice President, Board of Trustees, North American Society of Pacing and Electrophysiology
 2002 President-elect, Association of Professors of Cardiology
 2002 Medical Honoree, St. Louis Chapter, American Heart Association Heart Ball
 2002-03 President-elect, Board of Trustees, North American Society of Pacing and Electrophysiology
 2002-03 Vice-chair and Program Director, Scientific Board,
 The Sarnoff Endowment for Cardiovascular Science
 2002 Outstanding Researcher of the Year Award, Missouriian Award Executive Committee,
 American Heart Association
 2002 Member, Salt Lake 2002 Olympic Torch Relay, Olympic Winter Games, Salt Lake City, Utah
 2003 President, Association of Professors of Cardiology
 2003-04 President, Board of Trustees, North American Society of Pacing and Electrophysiology/
 Heart Rhythm Society
 2003-04 Chairman, Scientific Board, The Sarnoff Endowment for Cardiovascular Science
 2003 Fellow, Heart Rhythm Society
 2005 Distinguished Service Teaching Award, Washington University School of Medicine Class of 2007
 2005 Hans-Peter Kragenbuehl Memorial Award for Research in Cardiac Function,
 International Academy of Cardiology
 2006- present Chairman, Board of Directors, The Sarnoff Endowment for Cardiovascular Science
 2006 Distinguished Service Teaching Award, Washington University School of Medicine Class of 2008

EDITORIAL RESPONSIBILITIES

- 1983-88 *Circulation*, Associate Editor
 1985-97 *The Video Journal of Cardiology*, Editorial Board
 1987- present *The American Journal of Cardiology*, Editorial Board
 1987 Member, Special Study Section,
 Experimental Cardiovascular Sciences Research Review Committee,
 National Heart, Lung, Blood Institute,
 National Institutes of Health,
 Bethesda, Maryland
 1991 Editor, Review-in-Depth - High-Resolution Electrocardiography,
Coronary Artery Disease 1991;2:1-41
 1993-97 *Journal American College of Cardiology*, Editorial Board
 1994 Editor, Review-in-Depth - Management of Sustained Ventricular Arrhythmias.
Coronary Artery Disease 1994;8:649-685
 1998- present *Journal of Cardiovascular Electrophysiology*, Editorial Board
 2001-05 *Journal of Interventional Cardiac Electrophysiology*, Editorial Board
 2002-06 *Journal of American College of Cardiology*, Editorial Board
 2004- Present *Heart Rhythm*, Editorial Board

Curriculum Vitae - Michael E. Cain, M.D.**EDITORIAL RESPONSIBILITIES****Journal Referee**

American Journal of Cardiology
Annals of Internal Medicine
Annals of Thoracic Surgery
Circulation
Circulation Research
Coronary Artery Disease
European Heart Journal
Heart Rhythm
Journal American College of Cardiology
Journal of Cardiovascular Electrophysiology
Journal of Electrocardiography
New England Journal of Medicine
PACE

PROFESSIONAL SOCIETIES AND ORGANIZATIONS**Membership**

1977 Member, American Heart Association
 1980 Member, Cardiac Electrophysiology Society
 1980 Member, American Federation Clinical Research
 1980 Member, American Medical Association
 1984 Member, Council on Basic Science of the American Heart Association
 1984 Member, Council of Clinical Cardiology of the American Heart Association
 1984 Member, American College of Cardiology
 1985 Member, (currently Heart Rhythm Society) North American Society of Pacing and Electrophysiology
 1987 Member, International Society for Computerized Electrocardiography
 1994 Member, Association of Professors of Cardiology
 1995 Member, Central Society for Clinical Research
 1997 Member, Association of University Cardiologists

Leadership***American Board of Internal Medicine***

1998-99 *Member, Self-Evaluation Process (SEP) Committee for Clinical Cardiac Electrophysiology (CCEP)*
 2000-06 *Member, Committee for Clinical Cardiac Electrophysiology (CCEP)*

American College of Cardiology

1991 *College Governor-Elect for Missouri, Board of Directors*
 1991-95 *College Governor for Missouri, Board of Directors*
 1992-95 *President, Missouri Chapter, Board of Directors*
 1993-94 *Member, Cardiovascular Technology Assessment Committee*
 1994-95 *Member, Board of Governors Steering Committee*
 1994-95 *Member, Board of Governors Working Group on Academic Medical Centers*
 1999-02 *Member, Annual Scientific Sessions Program Committee*
 2001-02 *Chairman, Cardiac Arrhythmia Section, Annual Scientific Session Program Committee*

American Heart Association

1986-04 *Member, Board of Directors, St. Louis Chapter*
 1988-90 *Member, Committee on Electrocardiography and Electrophysiology, Council on Clinical Cardiology*

Curriculum Vitae - Michael E. Cain, M.D.**PROFESSIONAL SOCIETIES AND ORGANIZATIONS****Leadership (continued)*****American Heart Association***

- 1988 *Member*, Task Force Committee on Standards for Analysis of Ventricular Late Potentials present using High Resolution Electrocardiography, American Heart Association, American College of Cardiology, European Society of Cardiology
- 1990-92 *Assistant Secretary*, Board of Directors, St. Louis Chapter
- 1992-96 *Vice-President*, Board of Directors, St. Louis Chapter
- 1996-98 *President*, Board of Directors, St. Louis Chapter
- 1996-98 *Member*, Board of Directors, Missouri Affiliate

Association of Professors of Cardiology

- 2000-01 *Secretary/Treasurer*
- 2002 *President elect*
- 2003 *President*
- 2004 *Immediate Past President*

Association of Subspecialty Professors

- 2004-06 *Member*, ASP Advocacy Committee

Food and Drug Administration

- 2003-11 *Consultant*, Circulatory System Devices Panel, Medical Devices Advisory Committee

North American Society of Pacing and Electrophysiology (NASPE)-Heart Rhythm Society

- 1986-00 *Member*, Publications Committee
- 1994-95 *Member*, Government Relations Physicians Workforce, Clinical Resources and Education Committee
- 1995-98 *Chairman*, *Publications Committee*
- 1995-00 *Co-Director*, North American Society of Pacing and Electrophysiology and American College of Cardiology Board Review Course in Clinical Electrophysiology and Pacing
- 1995-01 *Member*, Long Range Planning Committee
- 1997-00 *Member*, Committee on Health Policy
- 1998-06 *Member*, Board of Trustees
- 1999-00 *Secretary*, Board of Trustees
- 1999-04 *Member*, Annual Scientific Sessions Program Committee
- 1999-05 *Member*, Executive Committee
- 2000-01 *Second Vice President*, Board of Trustees
- 2000-01 *Abstract Chair*, 22nd Annual Scientific Sessions
- 2001-02 *First Vice President*, Board of Trustees
- 2001-02 *Program Chair*, 23rd Annual Scientific Sessions
- 2001-03 *President-elect*, Board of Trustees
- 2003-04 *President*, Board of Trustees
- 2004-05 *Immediate Past-President*, Board of Trustees
- 2004-present *Co-chair*, International Coalition of Pacing and Electrophysiology Organizations
- 2006-present *Chairman*, Publications Committee

Sarnoff Endowment. The Stanley J. Sarnoff Endowment for Cardiovascular Science, Inc.

- 1999-06 *Member*, Scientific Board
- 2002-03 *Vice-Chair*, Scientific Board
- 2003-04 *Chair*, Scientific Board
- 2004-05 *Immediate Past-Chair*, Scientific Board

Curriculum Vitae - Michael E. Cain, M.D.**PROFESSIONAL SOCIETIES AND ORGANIZATIONS****Leadership (continued)*****Sarnoff Endowment. The Stanley J. Sarnoff Endowment for Cardiovascular Science, Inc.***2004-06 *Co-Chair, Strategic Planning Committee*2006-present *Chairman, Board of Directors, The Sarnoff Endowment for Cardiovascular Science****Other***1996 *Reviewer, Residency Review Committee for Internal Medicine,
Clinical Cardiac Electrophysiology Training Programs***SELECTED INVITED PROFESSORSHIPS, LECTURESHIPS, AND PROGRAM FACULTY*****Program Faculty*****National**

- 1984 *American College of Cardiology Heart House Learning Center Program: Practical Application of Electrophysiologic Studies for Diagnosis and Management of Arrhythmias - Bethesda, Maryland*
- 1985 *North American Society of Pacing and Electrophysiology 6th Annual Scientific Session - Toronto, Ontario*
American College of Cardiology Heart House Learning Center Program: Practical Application of Electrophysiologic Studies for Diagnosis and Management of Arrhythmias - Bethesda, Maryland
- 1986 *American College of Cardiology Heart House Learning Center Program: Practical Application of Electrophysiologic Studies for Diagnosis and Management of Arrhythmias -Bethesda, Maryland*
- 1987 *North American Society of Pacing and Electrophysiology 8th Annual Scientific Session – Boston, Massachusetts*
American College of Cardiology Heart House Learning Center Program: Practical Applications of Electrophysiologic Studies for Diagnosis and Management of Arrhythmias - Bethesda, Maryland
American Heart Association 60th Annual Scientific Sessions - Anaheim, California
- 1988 *North American Society of Pacing and Electrophysiology 9th Annual Scientific Session*
Los Angeles, California
American College of Cardiology Heart House Learning Center Program: Practical Application of Electrophysiologic Studies for Diagnosis and Management of Arrhythmias -Bethesda, Maryland
American Heart Association 61st Annual Scientific Sessions - Washington D.C.
- 1989 *American College of Cardiology 38th Annual Scientific Sessions - Anaheim, California*
American College of Cardiology Heart House Learning Center Program: Practical Application of Electrophysiologic Studies for Diagnosis and Management of Arrhythmias - Bethesda, Maryland
North American Society of Pacing and Electrophysiology 10th Annual Scientific Session – Toronto, Ontario
American Heart Association 62nd Annual Scientific Sessions - New Orleans, Louisiana
- 1990 *American College of Cardiology Heart House Learning Center Program - Bethesda, Maryland*
American College of Cardiology 39th Annual Scientific Sessions - New Orleans, Louisiana
- 1991 *American College of Cardiology 40th Annual Scientific Sessions - Atlanta, Georgia*
5th Puerto Rico Congress of Cardiology - San Juan, Puerto Rico
North American Society of Pacing and Electrophysiology IX World Symposium - Washington, D.C.
American College of Cardiology Heart House Learning Center Program - Bethesda, Maryland

Curriculum Vitae - Michael E. Cain, M.D.**SELECTED INVITED PROFESSORSHIPS, LECTURESHIPS, AND PROGRAM FACULTY*****Program Faculty (continued)*****National**

- 1992 *American College of Cardiology 41st Annual Scientific Sessions* - Dallas, Texas
5th International Congress on Ambulatory Monitoring - St. Louis, Missouri
North American Society of Pacing and Electrophysiology-13th Annual Scientific Session – Chicago, Illinois
American College of Cardiology Clinical Electrophysiology Board Review Course – Philadelphia, Pennsylvania
American Heart Association 65th Annual Scientific Sessions - New Orleans, Louisiana
- 1993 *American College of Cardiology 42nd Annual Scientific Sessions* - Anaheim, California
North American Society of Pacing and Electrophysiology 14th Annual Scientific Session – San Diego, California
American Heart Association 66th Annual Scientific Sessions - Atlanta, Georgia
- 1994 *North American Society of Pacing and Electrophysiology 15th Annual Scientific Session* - Nashville, Tennessee
American College of Cardiology Clinical Electrophysiology Board Review Course – Philadelphia, Pennsylvania
American Heart Association 67th Annual Scientific Sessions - Dallas, Texas
- 1995 *American Heart Association 68th Annual Scientific Sessions* - Anaheim, California
- 1996 *American College of Cardiology 45th Annual Scientific Sessions* - Orlando, Florida
North American Society of Pacing and Electrophysiology 17th Annual Scientific Sessions – Seattle, Washington
North American Society of Pacing and Electrophysiology and American College of Cardiology Board Review Course in Cardiac Electrophysiology - Chicago, Illinois
- 1997 *American College of Cardiology 46th Annual Scientific Sessions* - Anaheim, California
North American Society of Pacing and Electrophysiology 18th Annual Scientific Sessions - New Orleans, Louisiana
- 1998 *North American Society of Pacing and Electrophysiology 19th Annual Scientific Sessions* – San Diego, California
American College of Cardiology Cardiovascular Board Review - Indianapolis, Indiana
North American Society of Pacing and Electrophysiology and American College of Cardiology Board Review Course in Cardiac Electrophysiology - Houston, Texas
- 1999 *American College of Cardiology, 49th Annual Scientific Sessions* - Anaheim, California
North American Society of Pacing and Electrophysiology and American College of Cardiology Board Review Course in Cardiac Electrophysiology - Philadelphia, Pennsylvania
North American Society of Pacing and Electrophysiology 19th Annual Scientific Sessions - Toronto, Canada
- 2000 *North American Society of Pacing and Electrophysiology 21st Annual Scientific Sessions* – Washington, DC
North American Society of Pacing and Electrophysiology and American College of Cardiology Board Review Course in Cardiac Electrophysiology – Dallas, Texas
American College of Cardiology 50th Annual Scientific Sessions - Orlando, Florida

Curriculum Vitae - Michael E. Cain, M.D.**SELECTED INVITED PROFESSORSHIPS, LECTURESHIPS, AND PROGRAM FACULTY
Program Faculty (continued)****National**

- 2001 *North American Society of Pacing and Electrophysiology, 22nd Annual Scientific Sessions* – Boston, Massachusetts
- 2002 *EP '02 Spotlight Sunday Electrophysiology Symposium*
American College of Cardiology 51st Annual Scientific Sessions – Atlanta, Georgia
North American Society of Pacing and Electrophysiology, 23rd Annual Scientific Sessions – San Diego, California
- 2003 *American College of Cardiology 52nd Annual Scientific Sessions*, Chicago, Illinois
North American Society of Pacing and Electrophysiology, 25th Annual Scientific Sessions, Washington, DC
- 2004 *Heart Rhythm Society*, (formerly North American Society of Pacing and Electrophysiology) 25th Annual Scientific Sessions, San Francisco, California
- 2005 *American College of Cardiology 54th Annual Scientific Sessions* – Orlando, Florida
Heart Rhythm Society 26th Annual Scientific Sessions – New Orleans, Louisiana
American Heart Association Scientific Sessions 2005 – Dallas, Texas
- 2006 *Heart Rhythm Society 27th Annual Scientific Sessions*, Boston, Massachusetts
American Heart Association Scientific Sessions, Chicago, Illinois

International

- 1986 *International College of Angiology 28th Annual Meeting* - Nice, France
International Workshop on the Patient at Risk of Sustained Ventricular Tachyarrhythmias – Munich, Germany
- 1987 *20 Years of Programmed Stimulation of the Heart. "Where to Go from Here"* - Maastricht, The Netherlands
International College of Angiology 29th Annual Meeting - Montreux, Switzerland
- 1990 *Joint USA-USSR Symposium on Coronary Artery Disease*, National Heart, Lung, Blood Institute, National Institutes of Health, Bethesda, Maryland and Cardiology Research Institute of the USSR - Moscow, USSR
- 1991 *Mapfre Medicina Foundation Symposium* - Madrid, Spain
International Symposium on Cardiac Pacing and Electrophysiology - Taiwan R.O.C.
- 1992 *14th Hellenic Armed Forces Medical Conference* - Thassaloniki, Greece
First International Symposium on Cardiac Arrhythmias; 8th International Congress-Cardiostim 92 - Nice, France
- 1993 *3rd Annual Japanese Symposium on High Resolution Electrocardiography* - Tokyo, Japan
- 1994 *42nd Scientific Sessions, Japanese College of Cardiology* - Yokohama, Japan
- 1995 *25th National Meeting, Spanish Society of Cardiology* - LaCoruna, Spain

Curriculum Vitae - Michael E. Cain, M.D.**SELECTED INVITED PROFESSORSHIPS, LECTURESHIPS, AND PROGRAM FACULTY****Program Faculty (continued)****International**

- 1996 *Symposium on Nonpharmacological Management of Atrial Fibrillation* - London, England
CME in the Orient. Thai Physicians Association of America/Washington University School of Medicine - Hua Hin, Thailand
- 1998 *Fifth International Symposium on High-Resolution ECG and Late Potentials and Noninvasive Electrophysiology, Eleventh International Congress* - Cardiotim 98 - Nice, France
- 2000 *Seventh World Congress on Heart Failure* - Vancouver, BC, Canada
- 2001 *Seventh Asian-Pacific Society of Pacing and Electrophysiology Scientific Sessions* - Beijing, China
- 2002 *66th Annual Scientific Meeting of the Japanese Circulation Society* - Sapporo, Japan
- 2003 *12th World Congress on Cardiac Pacing and Electrophysiology* - Hong Kong, PRC
Joint US-Russia Symposium on New Development in Cardiac Arrhythmias, National Heart Lung, and Blood Institute and the Russian Cardiology Research Center - St. Petersburg, Russia
Eighth International Workshop on Cardiac Arrhythmias. Venice. Arrhythmias 2003-Venice, Italy
Europace 2003 - Paris, France
- 2004 *14th World Congress in Cardiac Electrophysiology and Cardiac Techniques, Cardiotim 2004* - Nice, France
European Society of Cardiology - Munich, Germany
XI International Symposium on Pacing - Rome, Italy
- 2005 *Europace 2005* - Prague, Czech Republic
12th World Congress on Heart Disease - Vancouver, BC, Canada
9th International Workshop on Cardiac Arrhythmias - Venice, Italy
- 2006 *15th World Congress in Cardiac Electrophysiology and Cardiac Techniques*, Nice, France
XII International Symposium on Pacing, Rome, Italy

Visiting Professor

- 1984 *University of London*, Ontario, Canada
- 1986 *University of California Davis*, Sacramento, California
- 1987 *University of Minnesota*, Minneapolis, Minnesota
University of Kansas Medical Center, Kansas City, Kansas
Medical College of Wisconsin, Milwaukee, Wisconsin
UMDNJ-Rutgers Medical School, Camden, New Jersey
- 1989 *University of Alabama*, Birmingham, Alabama
State University of New York, Buffalo, New York
University of Nebraska, Omaha, Nebraska
University of Missouri, Columbia, Missouri
University of Minnesota, Minneapolis, Minnesota
Creighton University, Omaha, Nebraska
Hahneman University, Philadelphia, Pennsylvania
University of Kansas City, Kansas City, Kansas
University of California San Diego, San Diego, California

Curriculum Vitae - Michael E. Cain, M.D.**SELECTED INVITED PROFESSORSHIPS, LECTURESHIPS, AND PROGRAM FACULTY*****Visiting Professor (continued)***

- 1990 *University of Rochester*, Rochester, New York
Medical College of Wisconsin, Milwaukee, Wisconsin
- 1991 *University of Nebraska*, Omaha, Nebraska
University of Tennessee, Knoxville, Tennessee
University of Iowa, Iowa City, Iowa
University of Louisville, Louisville, Kentucky
Harvard Medical School, Brigham and Womens Hospital, Boston, Massachusetts
- 1992 *University of Louisville*, Louisville, Kentucky
Dalhousie University, Halifax, Nova Scotia, Canada
University of Toronto, Toronto, Ontario, Canada
University of California San Diego, San Diego, California
- 1993 *Northwestern University*, Chicago, Illinois
- 1994 *University of South Florida*, Tampa, Florida
University of Iowa, Iowa City, Iowa
- 1995 *Hahneman University*, Philadelphia, Pennsylvania
University of Louisville, Louisville, Kentucky
- 1997 *University of Pittsburgh*, Pittsburgh, Pennsylvania
Texas Heart Institute, Houston, Texas
Hershey Medical Center, Hershey, Pennsylvania
University of Pennsylvania, Philadelphia, Pennsylvania
- 1998 *Cleveland Clinic Foundation*, Cleveland, Ohio
- 1999 *University of Minnesota*, Minneapolis, Minnesota
- 2001 *University of Kansas*, Kansas City, Kansas
University of Texas Southwestern, Dallas, Texas
University of Pennsylvania, Philadelphia, Pennsylvania
- 2002 *University of Missouri*, Columbia, Missouri
University of California San Diego, San Diego, California
University of Kansas, Kansas City, Kansas
University of Oklahoma, Oklahoma City, Oklahoma
- 2003 *University of California San Diego*, San Diego, California
- 2004 *University of Arkansas*, Little Rock, Arkansas
University of Pennsylvania, Philadelphia, Pennsylvania
Johns Hopkins University, Baltimore, Maryland
- 2005 *Albert Einstein University/Montefiore Hospital*, New York, New York
University of Minnesota, Minneapolis, Minnesota
Northwestern University, Chicago, Illinois

Curriculum Vitae - Michael E. Cain, M.D.**RESEARCH SUPPORT****Governmental**

- 1984-89 *Responsible Investigator,*
 Detection of the risks of malignant ventricular arrhythmia and assessment of its response to medical and surgical intervention.
 SCOR - Ischemic Heart Disease (HL 17646)
 National Heart, Lung, and Blood Institute,
 National Institutes of Health, Bethesda, Maryland,
 Amount: \$699,939.00
- 1985-89 *Participating Investigator,*
 Effects of psychosocial and psychoeducational interventions on compliance to beta-adrenergic blocking agents in patients recovering from acute myocardial infarction and to antiarrhythmic agents for prevention of sudden cardiac death.
 National Research and Demonstration Center Component SCOR - Ischemic Heart Disease,
 National Institutes of Health, Bethesda, Maryland,
 Amount: \$954,941.00
- 1986-91 *Participating Investigator,*
 Mechanisms of arrhythmogenesis following infarction, (R01-HL36773).
 National Heart, Lung and Blood Institute, National Institutes of Health, Bethesda, Maryland,
 Amount: \$1,355,970.00
- 1989-92 *Participating Investigator,*
 A linkage study of long QT syndrome in an Amish kindred, (R01-HL41035).
 National Institutes of Health, Bethesda, Maryland,
 Amount: \$752,281.00
- 1990-94 *Responsible Investigator,*
 Determinants of altered frequency components in electrocardiographic signals and their diagnostic and therapeutic implications.
 SCOR-Ischemic Heart Disease (HL17646),
 National Heart, Lung, and Blood Institute
 National Institutes of Health, Bethesda, Maryland,
 Amount: \$653,344.00
- 1991-95 *Program Participant,*
 Principles in Cardiovascular Research Training Program (T32-HL07081).
 National Heart, Lung, and Blood Institute,
 National Institutes of Health, Bethesda, Maryland,
 Amount: \$2,584,285.00
- 1992-98 *Principal Investigator (Washington University),*
 Multicenter Unsustained Tachycardia Trial - MUSTT.
 National Heart, Lung, and Blood Institute,
 National Institutes of Health, Bethesda, Maryland,
 Amount: \$107,460.00
- 1993-97 *Principal Investigator,*
 Pathophysiologic Basis of Ventricular Tachycardia in Man (R01-HL50295).
 National Heart, Lung, and Blood Institute,
 National Institutes of Health, Bethesda, Maryland,
 Amount: \$753,331.00

Curriculum Vitae - Michael E. Cain, M.D.**RESEARCH SUPPORT****Governmental (continued)**

- 1996-01 *Principal Investigator,*
Principles in Cardiovascular Research Training Program, (T32-HL07081).
National Heart, Lung, and Blood Institute,
National Institutes of Health, Bethesda, Maryland
Amount: \$1,160,430.00
- 1998-03 *Principal Investigator,*
Pathophysiologic Basis of Ventricular Tachycardia in Man (R01-HL50295).
National Heart, Lung, and Blood Institute,
National Institutes of Health, Bethesda, Maryland,
Amount: \$692,436.00
- 2001-04 *Sponsor:* Sanjiv Narayan, M.D.
The Pathophysiology of T-wave Alternans (K23-HL67117)
Amount: \$616,154
- 2001-06 *Principal Investigator,*
Principles in Cardiovascular Research Training Program, (T32-HL07081).
National Heart, Lung, and Blood Institute,
National Institutes of Health, Bethesda, Maryland,
Amount: \$1,636,895
- 2005-09 *Core Director:* Clinical Research Skills Development. Core
SCCOR in Cardiac Dysfunction and Disease (P50-HL-077113-01)
National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, Maryland
Amount: \$471,004
- 2006-11 *Principal Investigator,*
Principles in Cardiovascular Research Training Program, (T32-HL07081).
National Heart, Lung, and Blood Institute,
National Institutes of Health, Bethesda, Maryland,
Amount: \$1,999,987

Non-Governmental

- 1980-81 *Principal Investigator,*
Evaluation of ventricular excitability in man.
American Heart Association Fellowship Award,
Southeastern Pennsylvania Chapter, Philadelphia, Pennsylvania,
Amount: \$8250.00
- 1981-82 *Principal Investigator,*
Fast Fourier Transform Analysis of signal-averaged ECG complexes: a potential noninvasive
approach to the identification of patients at risk for the development of ventricular tachycardia.
Biomedical Research Support Grant,
Washington University School of Medicine, St. Louis, Missouri,
Amount: \$9682.00

Curriculum Vitae - Michael E. Cain, M.D.**RESEARCH SUPPORT****Non-Governmental (continued)**

- 1987-88 *Principal Investigator,*
A dose-range evaluation of the myocytic alpha-adrenergic receptor blocking potential of Labetalol.
Glaxo Laboratories, Research Triangle Park, North Carolina,
Amount: \$20,095.00
- 1987-89 *Participating Investigator,*
A double-blind multicenter comparison of intravenous adenosine to intravenous placebo in the termination of spontaneous or induced paroxysmal supraventricular tachycardia. Medco Research,
Amount: \$11,050.00
- 1988-90 *Principal Investigator,*
A comparative inpatient study of the safety and efficacy of three oral Recainam doses in the suppression of life-threatening ventricular tachyarrhythmias.
Berlex Laboratories, Cedar Knolls, New Jersey,
Amount: \$52,800.00
- 1988-90 *Participating Investigator,*
Emergency use of intravenous amiodarone in patients with refractory ventricular tachycardia/fibrillation. Wyeth-Ayerst, Philadelphia, Pennsylvania,
Amount: \$8,000.00
- 1988-89 *Sponsor: Robert H. Hoyt, M.D.*
Electrophysiologic and morphologic determinants of intramural reentry in human ventricular tachycardia.
Michael Bilitch Fellowship in Cardiac Pacing and Electrophysiology,
North American Society of Pacing and Electrophysiology,
Amount: \$23,500.00
- 1988-90 *Principal Investigator,*
A Placebo controlled study of ascending single oral doses of CK-1752A in patients with frequent ventricular ectopy to examine safety, pharmacodynamics and pharmacokinetics.
Berlex Laboratories, Wayne, New Jersey,
Amount: \$48,178.00
- 1989-90 *Sponsor: Mark L. Cohen, M.D.,*
Contributions and therapeutic implications of primary repolarization abnormalities in the initiation of ventricular arrhythmias by programmed stimulation.
Kenneth M. Rosen Fellowship in Cardiac Pacing and Electrophysiology,
North American Society of Pacing and Electrophysiology,
Amount: \$28,000.00
- 1990-91 *Sponsor: Margaret A. Hood, M.D.,*
Electrophysiologic determinants of altered frequency components in signal-averaged ECGs.
Missouri American Heart Association Fellowship,
Amount: \$23,000.00

Curriculum Vitae - Michael E. Cain, M.D.**RESEARCH SUPPORT****Non-Governmental (continued)**

- 1990-91 *Participating Investigator,*
A dose-ranging study of intravenous amiodarone in patients with refractory ventricular tachycardia/fibrillation. Wyeth-Ayerst, Philadelphia, Pennsylvania,
Amount: \$39,496.00
- 1990-92 *Participating Investigator,*
Clinical investigation of Medtronic 7216A/17B Pacer-Cardioverter-Defibrillator (PCD) system. Medtronic, Inc., Minneapolis, Minnesota,
Amount: \$20,000.00
- 1991-92 *Participating Investigator,*
A randomized, double-blind comparison of intravenous amiodarone and bretylium in the treatment of patients with refractory, hemodynamically destabilizing ventricular tachycardia or fibrillation. Wyeth-Ayerst, Philadelphia, Pennsylvania,
Amount: \$43,881.00
North American Society of Pacing and Electrophysiology,
Amount: \$28,000.00
- 1992-93 *Sponsor:* Mina K. Chung, M.D.,
Contribution of dynamic changes in repolarization to the termination of nonsustained ventricular tachycardia.
Michael Bilitch Fellowship in Cardiac Pacing and Electrophysiology
- 1992-93 *Principal Investigator,*
An open, multicenter evaluation of the Bard radiofrequency energy catheter ablation system in the treatment of patients with symptomatic, sustained ventricular tachycardias using abnormal atrioventricular conduction pathways.
Bard Electrophysiology, Tewksbury, Massachusetts,
Amount: \$35,000.00
- 1995-96 *Sponsor:* John P. McKenzie, M.D.,
Mechanisms of nonsustained ventricular tachycardia in humans.
American Heart Association Fellowship Award,
Missouri Affiliate, Columbia, Missouri,
Amount: \$28,000.00
- 2006-07 *Co-Investigator,*
Remodeling and novel biomarkers of cardiovascular disease in Type 2 diabetes.
Washington University/Pfizer Biomedical Research Program
Amount: \$2,050,249.00

CLINICAL TITLE

- 1981-94 Director, Clinical Electrophysiology Laboratory,
Barnes Hospital,
Washington University School of Medicine,
St. Louis, Missouri

Curriculum Vitae - Michael E. Cain, M.D.**CLINICAL TITLE (continued)**

1994-06	Director, Arrhythmia Services, Barnes-Jewish Hospital, Washington University School of Medicine, St. Louis, Missouri
1994-06	Director, Cardiovascular Division, Barnes-Jewish Hospital, Washington University School of Medicine, St. Louis, Missouri
1994-06	Tobias and Hortense Lewin Professor of Medicine, Washington University School of Medicine, St. Louis, Missouri
1999-06	Professor, Biomedical Engineering Washington University School of Medicine, St. Louis, Missouri
2006- present	Professor of Medicine Professor of Biomedical Engineering (pending) University at Buffalo School of Medicine and Biomedical Sciences Buffalo, New York

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1. Corr PB, **Cain ME**, Witkowski FX, Price DA, Sobel BE: Potential arrhythmogenic electrophysiologic derangements in canine Purkinje fibers induced by lysophosphoglycerides. *Circ Res* 1979;44:822-832
2. Josephson ME, Waxman HL, **Cain ME**, Gardner MJ, Buxton AE, Ezri MD, Marchlinski FE: Role of the 12-lead electrocardiogram in identifying site of origin of ventricular rhythms. In: Computerized Interpretation of the Electrocardiogram-Proceedings of the 1981 Engineering Foundation Conference. Engineering Foundation, New York 1981;189-196
3. Corr PB, Snyder DW, **Cain ME**, Crafford WA, Gross RW, Sobel BE: Electrophysiologic effects of amphiphiles on canine Purkinje fibers: implications for dysrhythmia secondary to ischemia. *Circ Res* 1981;49:354-363
4. Josephson ME, Horowitz LN, Waxman HL, **Cain ME**, Spielman SR, Greenspan AM, Marchlinski FE, Ezri MD: Sustained ventricular tachycardia: role of the 12-lead electrocardiogram in localizing site of origin. *Circulation* 1981;64:257-272
5. Robertson JF, **Cain ME**, Horowitz LN, Spielman SR, Greenspan AM, Waxman HL, Josephson ME: Initiation of ventricular tachycardia: anatomic and electrophysiologic correlates of ventricular tachycardia requiring left ventricular stimulation. *Am J Cardiol* 1981;48:263-268
6. Waxman HL, **Cain ME**, Greenspan AM, Josephson ME: Termination of ventricular tachycardia with ventricular stimulation: salutary effect of increased current strength. *Circulation* 1982;65:800-804
7. Josephson ME, Waxman HL, **Cain ME**, Gardner MJ, Buxton AE: Ventricular activation during ventricular endocardial pacing. 2. Role of pace-mapping to localize origin of ventricular tachycardia. *Am J Cardiol* 1982;50:11-22

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9. Roy D, Waxman HL, Buxton AE, Marchlinski FE, **Cain ME**, Gardner MJ, Josephson ME: Termination of ventricular tachycardia: role of tachycardia cycle length. *Am J Cardiol* 1982;50:1346-135
10. **Cain ME**, Martin TC, Marchlinski FE, Josephson ME: Changes in ventricular refractoriness following an extrastimulus: effects of prematurity, cycle length, and procainamide. *Am J Cardiol* 1983;52:996-1001
11. **Cain ME**, Martin TC, Sobel BE: Beta-adrenergic blocking agents and calcium antagonists in combination: safety and clinical implications. *J Cardiovasc Med* 1983;8:485-502
12. **Cain ME**, Ambos HD, Witkowski FX, Sobel BE: Fast Fourier transform analysis of signal-averaged electrocardiograms for identification of patients prone to sustained ventricular tachycardia. *Circulation* 1984;69:711-720
13. Ambos HD, Markham J, **Cain ME**: Use of fast Fourier transform analysis to detect patients prone to sustained ventricular arrhythmias. *Computers in Cardiology. IEEE Computer Society Press, Los Angeles, 1984;181-184*
14. Marchlinski FE, **Cain ME**, Falcone RA, Corky RF, Spear JF, Josephson ME: Effects of infarction, procainamide, coupling interval, and cycle length on refractoriness of extrastimuli. *Am J Physiol* 1985;248:H606-H613
15. **Cain ME**, Ambos HD: Detection of patients with malignant ventricular arrhythmia by frequency analysis of signal-averaged electrocardiograms. In: *Computerized Interpretation of the Electrocardiogram - Proceedings of the 1984 Engineering Foundation Conference*. Engineering Foundation, New York, 1985;51-63
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21. **Cain ME**, Ambos HD: Noninvasive detection of risk for ventricular arrhythmias. In: Proceedings 40th Annual Conference on Engineering in Medicine and Biology. *Alliance for Engineering in Medicine and Biology*, Washington, D.C., 1987;27-30
22. **Cain ME**: Electrophysiologic Assessment of Sinus Node Function. *Circulation* 1987;75:III-100-102
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24. Cox JL, Holman WL, **Cain ME**: Cryosurgical treatment of atrioventricular node reentry tachycardia. *Circulation* 1987;76:1329-1336
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27. **Cain ME**: Management of ventricular arrhythmias occurring in patients after myocardial infarction. *Angiology* 1988;39:307-320
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53. Lindsay BD, Eichling JO, Ambos HD, **Cain ME**: Radiation exposure to patients and medical personnel during radiofrequency catheter ablation for supraventricular tachycardia. *Am J Cardiol* 1992;70:218-223
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59. **Cain ME**: Pathophysiologic basis of the altered frequency components in signal-averaged ECGs. *Heart* 1993;25:48-59
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65. Arthur RM, Kavesh NG, Ambos, HD, **Cain ME**: Spectral analysis of the cardiac cycle of signal-averaged Frank leads from patients with ventricular tachycardia. *J Electrocardiol* 1995;27(Suppl)I218-227
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2. **Cain ME**, Horowitz LN, Harken AH, Josephson ME: Surgical management of ventricular dysrhythmias. In Vogel JHK, ed: *Cardiovascular Medicine*, 1982. Raven Press, New York, 1982;211-223
3. **Cain ME**, Josephson ME: Disopyramide. In Gould LA, ed: *Drug Treatment of Cardiac Arrhythmias*. Futura Publishing, New York, 1982;109-137
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5. **Cain ME**, Josephson ME: Quinidine. In Gould LA, ed: *Drug Treatment of Cardiac Arrhythmias*. Futura Publishing, New York, 1982;33-72
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11. **Cain ME**, Cox JL: Surgical Treatment of Supraventricular Arrhythmias. In Platia E, ed: *Management of Cardiac Arrhythmias: the Nonpharmacologic Approach*. J. B. Lippincott Co., Philadelphia 1987;304-339
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13. **Cain ME**, Ambos HD, Lindsay BD: Fast-Fourier transform analysis of the signal-averaged electrocardiogram in the management of patients with or prone to ventricular tachycardia or fibrillation. In Brugada P, Wellens HJJ, eds: *Cardiac Arrhythmias: Where to Go from Here?* Futura Publishing, New York 1987;311-328
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