OMB No. 0925-0001 and 0925-0002 (Rev. 09/17 Approved Through 03/31/2020)

BIOGRAPHICAL SKETCH

NAME: Marc D. Thames

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Associate Professor of Medicine, Department of Medicine

EDUCATION/TRAINING

| INSTITUTION AND LOCATION | DEGREE  (if applicable) | Completion Date  MM/YYYY | FIELD OF STUDY |
| --- | --- | --- | --- |
| Lehigh University, Bethlehem, PA | B.A. | 05/1966 | Chemistry |
| Virginia Commonwealth University, Richmond, VA | M.D. | 05/1970 | Medicine |

**A. Personal Statement**

**I became interested in the neural control of the heart and circulation as a medical student in 1967 and actively pursued this interest until 1999. My research efforts were funded by the National Institutes of Health (NRSA, RCDA, R0I and PPG), by the Department of Veterans Affairs (Merit Awards, from 1991-1999) and by the state affiliates of the American Heart Association (Iowa Heart Grant-in-Aid, yearly from 1977-1983). Of note, I was the PI on subprojects on baroreceptors in heart failure (PPG HL14388-S1, 1979-1981), and baroreflex regulation of heart rate and peripheral circulation (PPG HL14388-11, 1981-1986). My work focused on cardiovascular reflexes including the characterization of afferent inputs from cardiac and arterial mechano-receptors, the efferent responses to changes in afferent inputs and the central integration of cardiovascular reflexes. The role of cardiovascular reflexes in hypertension, during myocardial ischemia and in congestive heart failure also have been investigated. I have a specific interest in autonomic regulation of cardiac physiology, the topic of Dr. Anish Shah’s application for the F32 award. Important components of his application include non-invasive measurement of autonomic tone, and the relationship between psychological factors and ischemic heart disease. My scientific contributions outlined below document that I am qualified to serve on as an advisor for his upcoming training.**

**B. Positions and Honors**

**Positions and Employment**

**1971-1973** Staff Associate, Laboratory of Physical Biology, Section of Cellular Physics, National Institute of

Arthritis, Metabolic and Digestive Diseases, National Institutes of Health, Bethesda, MD

National Institutes of Health, 9000 Rockville Pike, Bethesda, MD 20892

1976-1977 Assistant Professor of Physiology and Biophysics, Mayo Medical School and Univ. of Minnesota School of Medicine, Rochester, MN

1977-1980 Assistant Professor of Internal Medicine, Univ. of Iowa College of Medicine, Iowa City, IA

1980-1982 Associate Professor of Internal Medicine, Univ. of Iowa College of Medicine, Iowa City, IA

1982-1989 Professor of Internal Medicine, Medical College of Virginia, Richmond, VA

1986-1989 Vice-Chairman, Cardiology Division, Chairman, Cardiopulmonary Division, Dept. of Internal Medicine, Medical College of Virginia, Richmond, VA

1982-1989 Chief, Cardiology Section, McGuire Veterans Administration Medical Center, Richmond, VA

1982-1989 Professor of Internal Medicine, Medical College of Virginia, Richmond, VA

1989-1991 Chief, Cardiology Section, Louis Stokes Veterans Affairs Medical Center, Cleveland, OH

1989-1997 Chief, Division of Cardiology, Univ. Hospitals of Cleveland and Case Western Reserve Univ., Cleveland, OH

1989-1999 The Joseph T. Wearn, M.D. Univ. Professor in Medicine, Case Western Reserve Univ., Cleveland, OH

1997-1999 Director, Cardiovascular Research Institute, Univ. Hospitals of Cleveland and Dept. of Veterans Affairs Medical Center, Cleveland, OH

1999-2003 Chief, Section of Cardiology, Temple Univ. Medical School, Philadelphia, PA

2000-2004 Florence P. Bernheimer Professor of Medicine, Temple Univ. School of Medicine, Philadelphia,

PA

2004-2017 Cardiovascular Consultants, Ltd., Phoenix, AZ

2017- Acting Associate Professor of Medicine, Emory Univ. School of Medicine, Atlanta, GA

**Honors**

2006-2018 America’s Top Doctors, Castle Connolly Medical Ltd, New York, NY

1999-2000 President, Association of Professors of Cardiology

1998-1999 President-elect, Association of Professors of Cardiology

1996-1998 Councilor, Association of Professors of Cardiology

1997-1998 President, American Heart Association, Northeast Ohio Affiliate, Inc.

1997-1999 Member of the Board, Ohio Valley Affiliate, American Heart Association

1995-1997 President-Elect, American Heart Association, Northeast Ohio Affiliate, Inc.

1994-1996 Chairman, Executive Committee, Council on Circulation, AHA

1992-1993 Editorial Advisory Board, Journal of Laboratory and Clinical Medicine

1992-1994 Vice-Chairman, Executive Committee, Council on Circulation, AHA

1992-1993 Vice-Chairman, Scientific Sessions Program Committee, AHA

1992-1995 Editorial Board, Journal of Cardiovascular Electrophysiology

1990 Board of Trustees, AHA Northeast Ohio Affiliate

1989 The Joseph T. Wearn, M.D., Univ. Professor in Medicine, Case Western Reserve Univ.

1989-2004 Association of University Cardiologists

1988-1992 Committee on Scientific Sessions Program, American Heart Association

1988-1989 Chairman of Research Committee, AHA Virginia Affiliate

1988 Executive Committee, AHA Council on Circulation

1988-1991 Chairman, Program Committee, AHA Council on Circulation

1987-1991 Cardiovascular and Pulmonary Study Section, NHLBI, NIH

1986-1987 Ad hoc member, Cardiovascular and Pulmonary Study Section, NHLBI, NIH

1984 Fellow, American College of Cardiology

1984 American Society for Clinical Investigation

1984-1987 Merit Review Board, Veterans Administration

1983 Fellow, American Heart Association Council for High Blood Pressure Research

1982 Editorial Board, American Journal of Physiology

1981-1987 Editorial Board, Circulation Research

1980 Fellow, American Heart Association Council on Clinical Cardiology

1979 Circulation Group, American Physiological Society

1979 Harold Lamport Award, Circulation Group of the American Physiological Society

1978-1982 Central Society for Clinical Research

1978 Fellow, American Heart Association, Council on Circulation

1978 Winner, Deborah Heart and Lung Young Investigator Competition

1978 Runner-up, Louis N. Katz Prize, Young Investigators of the American Heart Association

1978 American Physiology Society

1977-1982 Research Career Development Award, NHLBI, NIH

1970 Second Place Winner, SAMA-AOA Student Honors Day Research, (MCV, May)

1970 William Branch Porter Award in Medicine (MCV, May)

1969 Sigma Zeta; Alpha Omega Alpha; Winner, SAMA-AOA Student Honors Day Research Award

1968 Alpha Omega Alpha

**C. Contributions to Science**

**1. Recordings from cardiac and arterial baroreceptors: I have recorded single unit activity from cardiac mechanoreceptors with nonmyelinated afferent vagal fibers. I am the only person to have recorded the activity of ventricular receptors in closed chest, spontaneously breathing animals. The influence of d- and l-propanolol on the firing of these endings was evaluated. The behavior of these endings has been compared to that of endings with myelinated afferent fibers. Mechanisms of resetting of carotid sinus baroreceptors also have been investigated.**

1. **Thames MD**, Donald DE, and Shepherd JT: Behavior of cardiac receptors with non-myelinated vagal

afferents during spontaneous respiration in cats. Circ Res 41:694-701, 1977

1. Thames MD: Effect of d- and 1-propranolol on the discharge of cardiac vagal c-fibers. Am J Physiol

238:H465-H470, 1980

1. Gupta BN, and **Thames MD**: Behavior of left ventricular mechanoreceptors with medullated and nonmedullated afferent vagal fibers in cats. Circ Res 52:291-301, 1983
2. Heesch CM, Abboud FM, and Thames MD: Acute resetting of carotid sinus baroreceptors. II. Possible involvement of an electrogenic sodium pump. Am J Physiol 247:H833-H839, 1984

2. Reflex control of renal sympathetic nerve activity by arterial and cardiopulmonary baroreflexes: I have

recorded changes in renal sympathetic nerve activity during physiologic volume changes, myocardial

ischemia, and in heart failure and investigated the interaction of cardiovascular reflexes in the determination of integrated responses. The changes in renal nerve activity are dependent on the relative change in input from different groups of sensory receptors, the relative influence of each sensory input on renal sympathetic nerve activity and the central interactions of these reflexes.

1. Thames MD and Abboud FM: Reflex inhibition of renal sympathetic nerve activity during myocardial ischemia mediated by left ventricular receptors with vagal afferents in dogs. J Clin Invest 63:395-402, March, 1979
2. **Thames MD and Abboud FM: Interaction of somatic receptors with cardiopulmonary and carotid baroreceptors in the control of the renal circulation in dogs. Am J Physiol 237(5):H560-H565, 197**
3. Thames MD and Minisi AJ: Reflex responses to myocardial ischemia and reperfusion: Role of prostaglandins. Circ 80: 1878-1885, 1989
4. Dibner-Dunlap ME and Thames MD: Control of sympathetic nerve activity by vagal mechanoreflexes is blunted in congestive heart failure. Circ 86:1929-1934, 1992

3. Reflex and autonomic responses in humans: I have capitalized on the human heart transplant model to

evaluate the role of cardiovascular reflex control in humans.

1. Mohanty PK, Thames MD, Sowers JR, McNamara C, and Szentpetery S: Impairment of cardiopulmonary baroreflex following cardiac transplantation in humans. Circ 75:914-921, 1987
2. Ellenbogen KA, Mohanty PK, Szentpetery S, and Thames MD: Baroreflex abnormalities in heart failure: reversal after orthotopic cardiac transplantation. Circ 79:51-58, 1989
3. Smith ML, Carlson MD, Sheehan HM, and Thames MD: Naloxone does not prevent vasovagal syncope during simulated orthostasis in humans. J Auton Nerv Syst 45:1-9, 1993

**D. Additional Information**

**Prior Research Grant Support**

1974-1976 NIH National Research Service Award

1974-1975 Massachusetts Heart Association Grant-in-Aid

1975-1976 Council for Tobacco Research – U.S.A., Inc., Cardiac Mechanoreceptors and renin release.

Grant-in-Aid

1977-1981 HL21158(01-04) Cardiac Receptors with Vagal C-fiber Afferents

1979-1981 PPG HL14388-S1 Regulation of the Circulation in Pathological States. PI:FM Abboud.

Subproject: Baroreceptors in Heart Failure. PI: MD Thames

1979-1982 HL23898 Role of Renal Nerves in Renin Secretion

1981-1985 HL21158(05-07) changed to HL30506 in 1982. Cardiac receptors with vagal C-fiber afferents

1977-1982 Research Career Development Award HL00402, Cardiac receptors with vagal C-fiber afferents,

1981-1986 PPG HL14388-11 Regulation of circulation in pathological states. PI: FM Abboud. Subproject:

Baroreflex regulation of heart rate and peripheral circulation. PI: MD Thames. Subproject budget $278,085. This support terminated when I left the Univ. of Iowa in 1982.

1977-1978 Iowa Heart Grant-in-Aid. Effect of digitalis on cardiac receptors

1978-1979 Iowa Heart Grant-in-Aid. Arterial baroreflexes in Dahl's salt sensitive rats

1979-1980 Iowa Heart Grant-in-Aid. Inhibitory cardiac receptors during coronary occlusion

1981-1982 Iowa Heart Grant-in-Aid. Cardiac sympathetic afferents and ADH, $8,000.

1982-1983 Iowa Heart Grant-in-Aid. Baroreflex control of renal nerves in renal hypertension

1982-1983 A.D. Williams Foundation Grant. Baroreflex control of renal nerves in hypertension

1982-1983 V.A. Research Advisory Group Award. Baroreflex control of renal nerves in conscious dogs,

1983-1986 V.A. Merit Review Award. Directional sensitivity of arterial baroreflexes

1985-1989 Cardiac receptors with vagal C-fiber afferents. HL30506. April 1985 through March

1989.

1986-1991 V.A. Program Grant. Effects of cardiac denervation and rejection on transplanted heart,

1989-1994 HL30506. April 1989 through March 1994.

1991-1995 V.A. Merit Review Award. Reflex control in congestive heart failure. October, 1991 through

September, 1995.

1996-1999 V.A. Merit Review Award. Reflex control in congestive heart failure. April, 1996 through

March 31, 1999.