

**BIOGRAPHICAL SKETCH**

NAME FitzGerald, Garret A.		POSITION TITLE Professor of Medicine and Pharmacology	
eRA COMMONS USER NAME 1GARRET1			
EDUCATION/TRAINING ( <i>Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.</i> )			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
University College, Dublin, Ireland	M.B., B.Ch.	1974	Medicine
School of Hygiene, University of London	M.Sc.	1979	Statistics
University College, Dublin, Ireland	M.D.	1980	Pharmacology

**A. Positions and Honors****Positions and Employment**

1974-1977 Residency, St. Vincent's and Mater Hospitals, Dublin  
 1977- 1979 Research Fellow, Clinical Pharmacology, Royal Postgraduate Medical School, London  
 1980-1987 Fellowship/Faculty Positions, Medicine & Pharmacology, Vanderbilt University School of Medicine  
 1987-1991 Director, Division of Clinical Pharmacology, Vanderbilt University School of Medicine  
 1991-1994 Professor and Chairman, Department of Medicine and Therapeutics, University College Dublin,  
 1994-present Professor, Medicine and Pharmacology, University of Pennsylvania, Philadelphia, Pennsylvania  
 1996-present Chair, Department of Pharmacology, University of Pennsylvania  
 2004-present Director, Institute for Translational Medicine and Therapeutics, University of Pennsylvania

**Other Experience and Professional Memberships**

1981- American Association for the Advancement of Science (1998 elected Fellow)  
 1982- Fellow of the Royal College of Physicians, Ireland  
 1984-1990 NIH Biochemistry II Study Section: Member (1986-90); Chairman (1989-90)  
 1986- American Society for Clinical Investigation  
 1989- Association of American Physicians  
 1990-present Editorial Boards: Art Throm (1990-97; 2002-04); J Biol Chem (1993-99); Circulation (1993-present); JPET (1993-2000); JCI (2002-present); Trends in CV Med (1992-present)  
 1997-1999 American Heart Association Arteriosclerosis, Thrombosis and Vascular Biology Council: Chair

**Honors**

1983-1985 Faculty Development Award, Pharmaceutical Manufacturer's Association Foundation  
 1985-1990 Established Investigator, American Heart Association  
 1989-1991 William Stokes Professor of Experimental Therapeutics  
 1992 First International Prize for Aspirin Research  
 1994-2004 Robinette Foundation Professor of Cardiovascular Medicine  
 2000-2007 Elmer Bobst Professor of Pharmacology  
 2004 PhRMA Foundation Award for Excellence in Clinical Pharmacology  
 2004 D.Sc. (Hon.) University of Edinburgh, U.K.; D.Sc. (Hon.) University College Dublin, Ireland  
 2005 Coakley Medal; Robert Boyle Medal  
 2006 William Harvey Medal; Cameron Prize  
 2007 McNeil Professor in Translational Medicine and Therapeutics  
 2007 D.Sc. (Hon.) Wilhelm Goethe University of Frankfurt, Germany  
 1998-present Bishop, Bradshaw, BPS, DaPazzi, Fisher, Gilmartin, Goodman, Gruber, Habermann, Harvey, Pickering, Riker, Ross, von Euler and Wilkinson Lectures

**B. Publications (selected from 262 original articles) h index 86**

1. FitzGerald GA, Brash AR, Falardeau P, Oates JA: Estimated rate of prostacyclin secretion into the circulation of normal man. J Clin Invest 68:272-1275, 1981.
2. FitzGerald GA, Oates JA, Hawiger J, Maas RL, Roberts LJ, Brash AR: Endogenous biosynthesis of prostacyclin and thromboxane and platelet function during chronic administration of aspirin in man. J Clin Invest 71:676-688, 1983.
3. FitzGerald GA, Smith B, Pedersen AK, Brash AR: Increased prostacyclin biosynthesis in patients with severe atherosclerosis and platelet activation. N Engl J Med 310:1065-1068, 1984.

4. Pedersen AK, FitzGerald GA: Dose related kinetics of aspirin: Presystemic acetylation of platelet cyclooxygenase. N Engl J Med 311:1206-1211, 1984.
5. Knapp HR, Reilly IAG, Alessandrini P, FitzGerald GA: *In vivo* indexes of platelet and vascular function during fish-oil administration in patients with atherosclerosis. N Engl J Med 314:937-943, 1986.
6. Catella F, Healy D, Lawson J, FitzGerald GA: Il-dehydro-thromboxane B<sub>2</sub>: An index of thromboxane formation in the human circulation. Proc Natl Acad Sci USA 83:5861-5865, 1986.
7. Fitzgerald DJ, Roy L, Catella F, FitzGerald GA: Platelet activation in unstable coronary disease. N Engl J Med 315:983-989, 1986.
9. Nowak J, FitzGerald GA: Redirection of prostaglandin endoperoxide metabolism at the platelet-vascular interface in man. J Clin Invest 83:380-385, 1989.
9. Knapp HR, FitzGerald GA: The anti-hypertensive effects of fish oil: a controlled study of polyunsaturated fatty acid supplements in essential hypertension. N Engl J Med 320:1037-1043, 1989.
10. Fitzgerald DJ, FitzGerald GA: Role of thrombin and thromboxane A<sub>2</sub> in reocclusion following coronary thrombolysis with tissue type plasminogen activator. Proc Natl Acad Sci USA 86:7585-7589, 1989.
11. Catella F, Lawson J, Fitzgerald DJ, FitzGerald GA: Endogenous biosynthesis of arachidonic acid epoxides in humans: Increased formation in pregnancy-induced hypertension. Proc Natl Acad Sci USA 87: 5893-5897, 1990.
12. Barry P, Pratico D, Lawson JA, FitzGerald GA: Transcellular activation of platelets and endothelial cells by arachidonic acid in platelet microparticles. J Clin Invest 99:2118-2127, 1997.
13. Pratico D, Juliano J, Mauriello A, Spagnoli S, Lawson J, Rokach J, Maclouf J, Violi F, FitzGerald GA: Localization of distinct F<sub>2</sub> isoprostanes in human atherosclerotic lesions. J Clin Invest 100:2028-2034, 1997.
14. Pratico D, Tangirala RK, Rader DJ, Rokach J, FitzGerald GA: Vitamin E suppresses isoprostane generation *in vivo* and reduces atherosclerosis in ApoE-deficient mice. Nature Med 4:1189-1192, 1998.
15. McAdam BF, Catella-Lawson F, Mardini IA, Kapoor S, Lawson JA, FitzGerald GA: Systemic biosynthesis of prostacyclin by cyclooxygenase (COX)-2 Proc Natl Acad Sci USA 96:272-277, 1999.
16. Li H, Lawson JA, Reilly M, Adiyaman M, Hwang S-W, Rokach J, FitzGerald GA: Quantitative high performance liquid chromatography/tandem mass spectrometric analysis of the four classes of F<sub>2</sub>-isoprostanes in human urine. Proc Natl Acad Sci USA 96:13381-13386, 1999.
17. Rocca B, Loeb A, Strauss JA, Vezza R, Habbib A, Li H-W, FitzGerald GA: Directed vascular expression of the thromboxane A<sub>2</sub> receptor results in intrauterine growth retardation. Nat Med 6:219-221, 2000.
18. Pratico D, Tillman C, Zhang ZB, Li H, FitzGerald GA: Acceleration of atherogenesis by COX-1 dependent prostanoid formation in low density lipoprotein receptor knockout mice. Proc Natl Acad Sci USA 98:3358-3363, 2001.
19. Meagher EA, Barry OP, Lawson JA, Rokach J, FitzGerald GA: Effects of Vitamin E on lipid peroxidation in healthy persons. J Am Med Assn 285:1178-1182, 2001.
20. McNamara P, Seo S-B, Rudic RD, Sehgal A, Chakravarti D, FitzGerald GA: Regulation of CLOCK and MOP4 by nuclear hormone receptors in the vasculature: A humoral mechanism to reset a peripheral clock. Cell 105:877-889, 2001.
21. Catella-Lawson F, Reilly MP, Kapoor SC, Cucchiara AJ, DeMarco S, Tournier B, Vyas SN, FitzGerald GA: Cyclooxygenase inhibitors and the antiplatelet effects of aspirin. N Engl J Med 345:1809-1817, 2001.
22. Cheng Y, Austin SC, Rocca B, Koller BH, Coffman TM, Lawson JA, FitzGerald GA: Role of prostacyclin in the cardiovascular response to thromboxane A<sub>2</sub>. Science 296:539-541, 2002.
23. Grosser T, Yusuff S, Cheskis E, Pack MA, FitzGerald GA: Developmental expression of functional cyclooxygenases in zebrafish. Proc Natl Acad Sci USA 99:8418-8423, 2002.
24. Bell-Parikh C, Ide T, Lawson JA, McNamara P, Reilly M, FitzGerald GA: Biosynthesis of 15-deoxy<sup>12,14</sup>-PGJ<sub>2</sub> and the ligation of PPARγ(. J Clin Invest 112:945-955, 2003
25. Rudic RD, McNamara P, Curtis AM, Boston RC, Panda S, Hogenesch JB, FitzGerald GA: BMAL1 and CLOCK, two essential components of the circadian clock are involved in glucose homeostasis. PLOS Biol 2:1893-1899, 2004.
26. Egan K, Smyth E, Fries S, Rader D, FitzGerald GA: Prostacyclin confers atheroprotection on female mice. Science 306:1954-1957, 2004.
27. Cheng Y, Wang M, Yu Y, Lawson J, Funk C, FitzGerald GA. Cyclooxygenases, mPGES-1 and cardiovascular function. J Clin Invest 116:1391-1399, 2006.
28. Wang M, Zukas AM, Hui Y, Ricciotti E, Pure E, FitzGerald GA: Deletion of microsomal prostaglandin E synthase-1 augments prostacyclin and retards atherogenesis. Proc Natl Acad Sci 103:14507-04512, 2006.
29. Curtis A, Cheng Y, Kapoor S, Reilly D, Price TS, FitzGerald G.A. Circadian variation in blood pressure and the vascular response to asynchronous stress. Proc Natl Acad Sci 104:3450-3455, 2007.

**C. Research Support****Ongoing Research Support****1 U54 RR023567 (FitzGerald, PI)****9/30/06-6/30/11**

NIH/NCRR

Institutional Clinical and Translational Science Award (CTSA)

- The major goal is to develop interdisciplinary structures designed to foster and facilitate research and education in the emerging discipline of translational medicine.

**P50 HL81012 (Bennett, PI)****2/0/06-1/31/11**

NIH/NHLBI (FitzGerald, Project Director)

SCCOR in Mechanisms of Normal and Abnormal Platelet Homeostasis

Mechanism Based Resistance to Aspirin (FitzGerald, Project Director)

- The major goal of this project is to investigate the phenomenon of aspirin resistance.

**PO1 HL62250****4/1/04-3/31/09**

NIH/NHLBI Role: Principle Investigator

Signal Transduction in Atherosclerosis

- The major goal is the elucidation of signaling mechanisms in diverse cells which contribute to atherogenesis.

**2RO1 HL-053558****3/15/04-2/28/08**

NIH/NHLB Role: Principle Investigator

Lipoxygenases in Atherosclerosis

- The major goal is to understand how a class of enzymes known as lipoxygenases influence the buildup of fatty deposits and media layer breakdown of blood vessels.

**P50 HL083799 (FitzGerald, PI)****4/1/06-3/31/11**

NIH/NHLBI

SCCOR in Lipids as Modulators of the Response to Vascular Injury

- The major goal of this project is to characterize the role of lipids in the response to vascular injury.

**Completed During Last 3 Years****PO1 HL62250****4/1/99-3/31/04**

NIH/NHLBI Role: Principle Investigator

Signal Transduction in Atherosclerosis

- The major goal is the elucidation of signaling mechanisms in diverse cells which contribute to atherogenesis.

**RO1 HL61364****7/1/99-6/30/04**

NIH Role: Principle Investigator

Isoprostanes in Atherosclerosis

- The major goal is to evaluate antioxidant therapies in atherosclerosis using mouse models and human subjects.

**P50 HL54500 (Bennett - PI)****2/1/01-1/31/06**

NIH Role: Project Director

Activation of Hemostasis

- The major goal of this project is to explore the basic and clinical contributions of thromboxane receptor activation to atherothrombosis.

**MO1 RR00040****12/1/02-11/30/07**

NIH Role: Principle Investigator

General Clinical Research Center

- The major goal of this center is to support clinical research at the University of Pennsylvania.

\*This grant was subsumed into the awarded CTSA

**P50 HL70128**

**4/1/02-3/31/07**

NIH/NHLBI Role: Principle Investigator

Oxidative Modification in Atherogenesis

- The major goal is an integrated approach to the characterization of oxidative damage to vascular cells during atherogenesis.

Received approval from NHLBI to name Ian Blair, Ph.D., as PI and Emer Smyth, Ph.D. as leader of Project 1 for the remainder of the project.