



Curriculum Vitae Prof. Dr. Garret A. FitzGerald

Name: Garret A. FitzGerald
Born: 11 May 1950



Photo: 2012 Sabina louise pierce

Research priorities: Cardiovascular diseases, heart attack prevention, molecular clocks, pharmaceutical research, low-dose aspirin therapy, COX-2 inhibitors, non-steroidal anti-inflammatory drugs

Garret A. FitzGerald is a pharmacologist and physician. He analyses the effective mechanisms of medications and is an internationally recognized expert in the field of cardiovascular diseases. His discoveries contributed fundamentally to the development of low dose aspirin for cardioprotection and to recognition of the cardiovascular consequences of inhibiting the enzyme cyclooxygenase-2.

Academic and Professional Career

- since 2004 Director of the Institute for Translational Medicine and Therapeutics, University of Pennsylvania, Philadelphia, USA
- 1996 - 2017 Chair for Systems Pharmacology and Translational Therapeutics
- since 1994 Professor and chair owner for medicine and pharmacology and founding director, Center for Experimental Therapeutics (CET), University of Pennsylvania, Philadelphia
- 1991 - 1994 Professor and chair owner at the Department of Medicine and Therapeutics, University College Dublin, Ireland
- 1980 - 1990 Scientific assistant and (from 1987) Director, Clinical Pharmacology, Vanderbilt University, Nashville, USA
- 1980 Doctorate in pharmacology, University College, Dublin
- Scholar, Alexander von Humboldt-Stiftung, Köln, Germany
- Studies of medicine and natural sciences, University College Dublin

Honours and Awarded Memberships

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| since 2018 | Member of the German National Academy of Sciences Leopoldina |
| 2014 | St. Patrick's Day Medal, Science Foundation Ireland |
| 2013 | Schottenstein Prize |
| 2013 | Lefoulon-Delalande Prize, Institut de France |
| 2013 | Scheele Award, Swedish Academy of Pharmaceutical Science |
| 2012 | Lucian Award |
| 2012 | Fellow der Royal Society (FRS) |
| 2011 | Jakob-Herz Prize of the Medical faculty, University Erlangen-Nürnberg |
| 2009 | Taylor Prize |
| 2007 | Cameron Prize |
| 2005 | Boyle Medal |

American Heart Association's Distinguished Scientist Award

Presidential Distinguished Service Award for the Irish Abroad

Phillips Award

PhRMA Foundation Award

Hunter Award

Member of the US-National Academy of Medicine

Fellow der American Academy of Arts and Sciences und der Accademia dei Lincei

Honorary Member of the Royal Irish Academy

Honorary doctorates of the National University of Ireland, the University of Edinburgh, the Johann Wolfgang Goethe-University Frankfurt King's College, London and the Royal College of Surgeons in Ireland.

Research priorities

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The development of low-dose aspirin therapy for the prevention of heart attacks led to his becoming internationally renowned. He developed and applied biochemical methods for

assessing aspirin's dose dependent inhibition of prostaglandins and discovered that low doses inhibited platelets in the presystemic circulation. Additionally, he made the unexpected observation that therapeutic thrombolysis activated platelets and that combination with a platelet inhibitor, like aspirin, as adjuvant therapy greatly enhanced efficacy, a prediction confirmed by clinical trials.

FitzGerald and his colleagues discovered a mechanism that predicted that anti-inflammatory drugs - so-called COX- 2 inhibitors, a type of non-steroidal anti-inflammatory drug (NSAID) – would pose a cardiovascular threat to some patients. The link between these drugs and heart attacks and strokes was confirmed in ensuing studies and leading to withdrawal of two drugs (Vioxx and Bextra) from the market. Building on this research, he has sought to integrate studies in humans and model systems with the aim of predicting the effectiveness and cardiovascular safety at the individual patient level.

FitzGerald's lab was the first to discover the presence of a molecular clock in the cardiovascular system. It helps control circadian rhythms, which include sleep/wake cycles, metabolism, blood pressure and body temperature. FitzGerald has used model systems to analyse the role this "timer" plays in adiposity, cardiovascular functions, microbiome modelling and the uptake of drugs. Presently he is characterizing the human chronobiome with the objectives of studying its decay in aging and of elucidating mechanisms that underlie time dependent disease phenotypes.