



APPLICANT DORA-COMPLIANT CV TEMPLATE

NAME AND CONTACT DETAILS

Professor William Wijns, MD PhD

The Lambe Institute for Translational Medicine and CURAM

Smart Sensors Laboratory, Director

University of Galway, Ireland

CAREER PROFILE (Education and employment)

Education

1989 Doctorate of Philosophy in Cardiovascular Disease, University of Louvain, Belgium.
1983 Specialist in Cardiology, Registration Committee, the Netherlands.
1981 Certified Specialist in Internal Medicine, University of Louvain, Brussels, Belgium.
1976 Doctor of Medicine, University of Louvain (Grande Distinction), Brussels, Belgium.

Employment

2023-now Professor of Interventional Cardiology, University of Galway, Ireland.
Smart Sensors Laboratory, The Lambe Institute for Translational Medicine, University of Galway, Ireland.
2016-2023 Science Foundation Ireland Research Professor of Interventional Cardiology, University of Galway, Ireland.
1990-2016 Co-Director, Cardiovascular Research Centre Aalst, OLV Hospital, Aalst, Belgium.
1987-1990 Clinical Professor of Cardiology, St Luc University Hospitals and University of Louvain Medical School, Brussels, Belgium.
1986-1987 Social Service, Cardio-Pulmonary Physiopathology Unit, University of Louvain Medical School, Brussels, Belgium.
1984-1985 Visiting Associate Professor of Radiological Sciences, Division of Nuclear Medicine and Biophysics, University of California, Los Angeles, United States of America.
1981-1984 Post-doctoral research fellowship at the Thorax Centre and Erasmus University, Rotterdam, the Netherlands.
1976-1981 Fellowship in Internal Medicine and Cardiology, University Hospitals, University of Louvain Medical School, Brussels, Belgium.

KEY ACHIEVEMENTS IN RESEARCH EXCELLENCE & IMPACT

A. Key achievements in the generation of knowledge

1. By chance, I had the opportunity to be involved since 1980 in the emergence and to contribute to the development of a new, patient-friendly, minimally invasive approach to the care of patients with heart diseases. This new discipline in medicine is called interventional cardiology



and is device-based. My research was focused on the evaluation of new devices for treatment of patients with coronary artery disease and its sequelae. My thesis was on the study of regional myocardial ischemia during percutaneous transluminal coronary angioplasty (1989). I have contributed studies on balloon dilatation and stent development from bare-metal, through drug-eluting to bioresorbable devices. I have worked on alternative techniques such as directional atherectomy, brachytherapy (A1) or drug-coated balloons. We alerted the community on the obvious excess rate of (very) late stent thrombosis with use of the first-generation drug-eluting stents, in the absence of prolonged antiplatelet therapy (A2), with immediate impact on the premature dissemination of these early devices, after the so-called “2006 ESC DES firestorm”. I contributed to the validation of safer, new generation stent iterations and to a better understanding of the synergy between device and adjunctive pharmacology (A3). From the onset, I have attempted to measure the need for- and the effects of- coronary interventions on the restoration of abnormal coronary physiology, and recently made these measurements easily obtainable from the simple angiogram (A4). In the era of care accountability, I am promoting the systematic measurement of immediate post-procedural success by functional testing, anticipating improved outcomes in trial-based and patient-related outcome metrics (A5).

2. My background in cardiac imaging has led me to pursue research on the non-invasive and invasive methods for the evaluation of essential cardiac biological processes, namely anatomy, flow, metabolism and function. We have proposed the repetitive stunning model as a cause of reversible chronic myocardial dysfunction – or myocardial hibernation – with preserved resting blood flow (A6). In collaboration with researchers from the Mayo Clinic, we have pioneered the injection of autologous, lineage specified mesenchymal stem cells for cardiac regeneration in patients with irreversible dysfunction and heart failure (A7).
3. Since 2017, my research is focusing on reducing acute Major Adverse Cardiac and Cerebral Events that still occur in an unpredictable way in too many cases, a residual unmet need in today’s cardiovascular care. Our hypothesis is based on the study of the “missing link” namely the interactions between event-triggering factors and vulnerable plaque in vulnerable patients. To this end, high-risk patient subsets will undergo daily monitoring using smart biosensors developed for connected health applications to monitor trigger activity, modulate risk, mitigate and possibly prevent acute events.

B. Key achievements in the development of individuals and collaborations

1. I have been mentoring and supervising numerous students, PhD candidates, cardiology fellows and interventional post-docs in each of my working environments. I am currently supervising a team of 14 post-doctoral researchers, PhD students, biomedical engineers and research nurses. At least 5 of my former fellows have become head of prestigious cardiology divisions in Belgium or in Italy. I am very proud to be described as a “talent scout” by my colleagues. Peer interactions have been equally rewarding during years of collaborative efforts in the context of national and international multicenter trials. I am enjoying strong and long-lasting working relationships with colleagues in China, especially with Professors Runlin Gao and Xu Bo from the FuWai National Heart Center in Beijing and Professor Shengxian Tu from the Bioengineering School from Shanghai Jiao Tong University, perhaps the reason why I have been nominated by the Chinese Society of Cardiology as one of the 12 international clinical scientists who have contributed the most to the development of cardiovascular medicine in China.
2. In 2023, we launched the Smart-Shape research consortium ([website:smart-shape.eu](http://www.smart-shape.eu)) with the aim to develop blood pressure sensors for high-granularity, medical grade arterial blood pressure sensor-based monitoring and treatment. This 4-year project has received funding from the European Health and Digital Executive Agency under grant number 101092242.



3. Since 2010, I have served as the chairman of PCR, an organisation that offers the global interventional community knowledge transfer and adult learning through post-graduate educational activities, including webinars, seminars and yearly courses (EuroPCR, PCR London Valves, Africa PCR, Gulf PCR, Asia PCR, PCR–CIT Chengdu Valves and Tokyo Valves) with a worldwide outreach of 60.000+ health care professionals (see <https://www.pconline.com>).
4. Through PCR and with the help of Europa Group as its backbone organisation, I was able to offer career development to hundreds of colleagues participating in different programs, such as the VITAL training (Visual Adult Transformative Learning), the PCR Companions scheme, the PCR's Got Talent competition, the PCR Clinical research curriculum. In 2021, I have engaged PCR in joining the Woman as One initiative in support of equality and diversity within the interventional community.

C. Key achievements supporting broader society & the economy

1. From 1992 till today, I have served the European Society of Cardiology (ESC) and engaged in different leadership positions, either through election or nomination. I was awarded the Gold Medal of the Society in 2017. My most impactful roles have been to chair two annual Scientific Programme Committees of the yearly ESC Congress (2002-2004), the creation and first chairmanship of the European Association for Percutaneous Cardiovascular Interventions (2006-2009), the membership and chair of the EU Affairs and EU Relations Committee (2006-2010). The ban on smoking in public places spearheaded by Ireland took place during my term.
2. My impact on society and economy stems from innovation and commercialisation activities. I have collaborated with many medical device companies through advisory functions and as an investigator. In order to commercialise stem cell therapy for ischaemic heart failure, I co-founded Cardio³ and Cardio³Biosciences, a biotechnology start-up company (public since 2013) and served as a non-executive Board member (now Celyad).
3. I am passionate about societal engagement through “non for profit” organisations. I have been a Board member of the World Heart Federation (2006-2010) promoting prevention of cardiovascular diseases in low- and middle-income countries. I am on the Board of SHARE that supports training in interventional cardiology in Africa and successfully developed the human capacity to run catheterisation laboratory services in Mauritania and Mali (see <https://www.pconline.com/Network/SHARE>). Presently, I am co-chairing with Prof sir Magdi Yacoub and Mrs Radegonde Ndejuru, the Heart Care and Research Foundation Rwanda, building the MY Rwanda Heart Center that will offer free of charge medical services to adults and children with heart disease from The Great Lakes Region and Central Africa (see <https://www.rwandaheartcentre.org/>).
4. Together with PCR and Europa-Group, we have created in 2023 the “We Care Alliance”, a non-for-profit umbrella organisation aimed at promoting access to life-saving care and reducing inequalities in access. The implementation of emergency intervention in patients with acute myocardial infarction has had major impact on the care of thousands of patients with acute myocardial infarction across the world, through the creation in 2008 of Stent for Life, now Stent-Save-a-Life (stentsavealive.com) together with P. Widimsky (A8). In January 202, we launched the Resil-Card initiative (<https://www.wecareabouthearts.org/resil-card/the-project/>) aiming at strengthening cardiovascular care resilience for healthier hearts. This programme is funded by the the European Union's EU4Health work programme under grant agreement No. 101129203.

D. Key achievements supporting the research community



1. As an academic, I am fulfilling my duties in support of the research community through grant review (specifically for Swiss, French and British funding agencies), as a reviewer of manuscripts submitted for publication in 15 journals and as an editorial board member for 7 journals. I see as most impactful my founding role of the successful EuroIntervention journal (currently Advisory Editor) and my past duties as Deputy and Associate Editor of the European Heart Journal.
2. Besides articles, other publications include Guidelines, books and book chapters. ESC Practice Guideline documents are extremely impactful and I would like to mention the 2015 Guideline on Myocardial Revascularisation and the 2019 document on Chronic Coronary Syndromes, that I led as Task Force co-chair (A9, A10). I am also one of the founding Editors of the PCR-EAPCI Textbook (see <https://www.pconline.com/PCR-Publications/Textbooks/PCR-EAPCI-textbook/>), a reference resource for trainees and fellows worldwide with massive impact (206.426 users; 219.260 downloads of chapters or visuals).
3. Another way to support the research community is to engage with Academic and/or Commercial Research Organisations that facilitate trial conduct on behalf of industrial sponsors or investigators. I was a member of the Advisory Board of Genae (now IQVIA), co-founded Argonauts Partners, an innovation facilitator, and serve today as medical advisor of Rede Optimus Research and senior advisor of the Corrib Core Laboratory at NUI Galway.

SECTION 2 – Publication Details

Publications	905
Scientist ranking (World)	873
Scientist ranking (Ireland)	3

D-index	141	Citations	123.022	(research.com/u/william-wijns)
h-index	144	Citations	151.688	(exaly.com/author/5873350/William-wijns)

Prof William Wijns has published an average of 18 manuscripts per year over the past 25 years. Review papers have been published in the New England Journal of Medicine (IF 54.42), Nature Reviews in Cardiology (IF 49.421), Journal of the American College of Cardiology (IF 15.343), Circulation (IF 14.948) and European Heart Journal (IF 14.723) amongst others.

A. SELECTED SENIOR-AUTHOR PUBLICATIONS (n=10)

A1. Verin V, Popowski Y, de Bruyne B, et al. Endoluminal beta-radiation therapy for the prevention of coronary restenosis after balloon angioplasty. The Dose-Finding Study Group. *N Engl J Med.* 2001;344(4):243-9. Last author, 350 citations.



A2. Camenzind E, Steg PG, Wijns W. Stent thrombosis late after implantation of first-generation drug-eluting stents: a cause for concern. *Circulation*. 2007;115(11):1440-55; discussion 1455. Cited by 999.

A3. Wijns W, Steg PG, Mauri L, et al. Endeavour zotarolimus-eluting stent reduces stent thrombosis and improves clinical outcomes compared with cypher sirolimus-eluting stent: 4-year results of the PROTECT randomized trial. *Eur Heart J*. 2014;35(40):2812-20. Cited by 66.

A4. Tu S, Westra J, Adedj J, et al. Fractional flow reserve in clinical practice: from wire-based invasive measurement to image-based computation. *Eur Heart J*. 2020;41(34):3271-9. Last author, 36 citations.

A5. Ding D, Huang J, Westra J, et al. Immediate post-procedural functional assessment of percutaneous coronary intervention: current evidence and future directions. *Eur Heart J*. 2021;42(27):2695-707. Last author, 12 citations.

A6. Wijns W, Vatner SF, Camici PG. Hibernating myocardium. *N Engl J Med*. 1998;339(3):173-81. Cited by 604.

A7. Bartunek J, Terzic A, Davison BA, et al. Cardiopoietic cell therapy for advanced ischaemic heart failure: results at 39 weeks of the prospective, randomized, double blind, sham-controlled CHART-1 clinical trial. *Eur Heart J*. 2017;38(9):648-60. Last author, 181 citations.

A8. Widimsky P, Wijns W, Fajadet J, et al. Reperfusion therapy for ST elevation acute myocardial infarction in Europe: description of the current situation in 30 countries. *Eur Heart J*. 2010;31(8):943-57. Cited by 936.

A9. Wijns W et al. Task Force on Myocardial Revascularization of the European Society of Cardiology (ESC) and the European Association for Cardio-Thoracic Surgery (EACTS), European Association for Percutaneous Cardiovascular Interventions (EAPCI). Guidelines on myocardial revascularization. *Eur Heart J*. 2010;31(20):2501-55. Cited by 3.514.

A10. Knuuti J, Wijns W, Saraste A, et al. 2019 ESC Guidelines for the diagnosis and management of chronic coronary syndromes. *Eur Heart J*. 2020;41(3):407-77. Task Force co-chair, 3.483 citations.

B. OTHER SELECTED IMPACTFUL PUBLICATIONS (n=10)

B1. Mahfoud F, Azizi M, Ewen S, et al. Proceedings from the 3rd European Clinical Consensus Conference for clinical trials in device-based hypertension therapies. *Eur Heart J*. 2020;41(16):1588-99. Last author, 53 citations.



- B2. Wein B, Bashkireva A, Au-Yeung A, et al. Systematic investment in the delivery of guideline-coherent therapy reduces mortality and overall costs in patients with ST-elevation myocardial infarction: Results from the Stent for Life economic model for Romania, Portugal, Basque Country and Kemerovo region. *Eur Heart J Acute Cardiovasc Care*. 2020;9(8):902-10. Senior author, 7 citations.
- B3. Mullens W, Sharif F, Dupont M, Rothman AMK, Wijns W. Digital health care solution for proactive heart failure management with the Cordella Heart Failure System: results of the SIRONA first-in-human study. *Eur J Heart Fail*. 2020;22(10):1912-9. Cited by 32.
- B4. Bartunek J, Terzic A, Davison BA, et al. Cardiopoietic stem cell therapy in ischaemic heart failure: long-term clinical outcomes. *ESC Heart Fail*. 2020;7(6):3345-54. Last author, 10 citations.
- B5. Knuuti J, Ballo H, Juarez-Orozco LE, et al. The performance of non-invasive tests to rule-in and rule-out significant coronary artery stenosis in patients with stable angina: a meta-analysis focused on post-test disease probability. *Eur Heart J*. 2018;39(35):3322-3330. Last author, 292 citations.
- B6. Wijns W, Valdes-Chavarrri M, Richardt G, et al. Long-term clinical outcomes after bioresorbable and permanent polymer drug-eluting stent implantation: final five-year results of the CENTURY II randomised clinical trial. *EuroIntervention*. 2018;14(3):e343-51. Cited by 22.
- B7. Depré C, Vanoverschelde JL, Melin JA, et al. Structural and metabolic correlates of the reversibility of chronic left ventricular ischemic dysfunction in humans. *Am J Physiol*. 1995;268(3 Pt 2):H1265-75. Last author, 256 citations.
- B8. De Bruyne B, Baudhuin T, Melin JA, et al. Coronary flow reserve calculated from pressure measurements in humans. Validation with positron emission tomography. *Circulation*. 1994;89(3):1013-22. Last author, 546 citations.
- B9. Vanoverschelde JL, Wijns W, Depré C, et al. Mechanisms of chronic regional posts ischemic dysfunction in humans. New insights from the study of noninfarcted collateral-dependent myocardium. *Circulation*. 1993;87(5):1513-23. Senior author, 877 citations.
- B10. Wyns W, Schwaiger M, Huang SC, et al. Effects of inhibition of fatty acid oxidation on myocardial kinetics of ¹¹C-labeled palmitate. *Circ Res*. 1989;65(6):1787-97. Cited by 35.