



INTERNATIONAL CENTRE FOR GENETIC ENGINEERING AND BIOTECHNOLOGY

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To the attention of the ISHR-ES Council

Dear Council Members,

I am writing this letter to express my interest in joining the ISHR-ES Council.

My research has focused on cardiovascular research since my medical studies and my dream to return to the clinics with therapies to regenerate and revascularize an ischemic heart through my scientific discoveries continues to drive my work and passion.

As you might be aware of, I am currently leading the Cardiovascular Biology Laboratory at the ICGEB, an intergovernmental organization within the United Nations system with premises in Trieste (Italy), New Delhi (India) and Cape Town (South Africa). Since 2016, I joined the University of Trieste, where I am currently serving as a Professor in Molecular Biology, Gene Therapy and Regenerative Medicine. Over my 15-year academic career, I have supervised the activity of hundreds of students and post-docs of various nationalities. Being an MD and working at the same time for a university and for an International Organization implies a lot of effort and important responsibilities but also offers high rewards.

The activity of my laboratory aims at discovering and developing novel biological therapeutics for myocardial infarction and heart failure. In the upcoming years, I wish to add additional novelty, looking at the rarity of cardiac cancer. Toward this goal, I have collaborated with a series of outstanding partners at prestigious institutions, including Andrew Baker, University of Edinburgh, UK (miRNA-based therapy), Peter Carmeliet, VIB, Leuven Belgium (endothelial cell metabolism), Zhou Bin, Shanghai Institutes for Biological Sciences, China (genetically modified mice to study cardiac angiogenesis), David Klatzmann, Sorbonne Université, Paris, France (Tregs and role of the immune system in cardiac regeneration), Fabio Recchia, Temple University, Philadelphia, USA (large animal models of cardiac diseases), Rui Bedito, CNIC, Madrid, Spain (VEGF signaling in cardiac revascularization), Joost Sluijter, UMCU, Utrecht, The Netherlands (mechanobiology in the heart), Anna Randi, Imperial College London, UK (ERG function in cardiac angiogenesis), Juan Carlos Izpisua Belmonte, Salk Institute, La Jolla, USA (miRNA in cardiac regeneration) and Hesham Sadek, UT Southwestern, Dallas, USA (hypoxia and cardiac regeneration). These activities also allowed me to be elected as a Nucleus Member of the Working Group of Myocardial Function of the European Society of Cardiology in 2018 and as a member of the LS7 ERC Panel since 2019.



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At the ICGEB, I serve as the scientific coordinator of the Programs, which include Fellowships, Collaborative Grants and Meetings and Courses, which has allowed me to organize various meetings on gene therapy and gene editing, animal models, as well as on the use of US imaging for the evaluation of cardiac function in experimental animals. This aspect could be of particular value for the organization of some joint ICGEB-ISHR-ES meetings in the future.

It is in this context that I was informed about the opening of positions within the ISHR-ES Council. I naturally found this possibility very attractive. Being at a critical phase of my career, no longer a junior investigator, nor of a caliber akin to that of the current top-world leaders in the highly competitive fields of heart research, it is precisely this motivation that urges me to actively contribute to ISHR-ES activities and give my best in increasing the visibility and networking potential of the society. At the same time, my interests at the intersection between heart research, angiogenesis and cancer motivates my enthusiasm to be very active within the Council and propose innovative initiatives, particularly to bridge basic and clinical research. Having participated in past meetings of the ISHR-ES since 2015, and having been in close contact with most members of the Council, I am familiar with your initiatives. I believe my research and professional interests perfectly match the mission of the ISHR-ES in promoting both the discovery and dissemination of knowledge in the cardiovascular sciences.

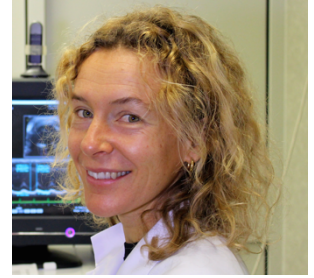
It is in this spirit that I decided to apply for a Council Member position under circumstances that would allow both the Council and myself to pursue high profile research and education activities.

Sincerely,

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Serena Zacchigna

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Education/Training

- 2005 Ph.D. International School for Advanced Studies (Trieste, Italy) cum laude
- 2001 Professional license - Admitted to the Medical Doctors and Surgeons' Register in Trieste (n.3633), full marks
- 2000 M.D. Medical School, University of Trieste, Italy, full marks (110/110) cum laude

Positions and Employment

- 2021- Collaborator, Experimental CardioOncology, Centro Cardiologico Monzino, Milan, Italy
- 2019- Associate Professor, Molecular Biology, Department of Medical Sciences, University of Trieste, Italy
- 2015- Haed, Cardiovascular Biology, ICGEB, Trieste, Italy
- 2016-2019 RTDB, University of Trieste (Italy)
- 2007-2014 Staff Research Scientist, ICGEB, Trieste, Italy
- 2006-2007 Post-doc, Center for Transgene Technology & Gene Therapy, Flanders Interuniversity Institute for Biotechnology (VIB), University of Leuven, Belgium

Professional Memberships

European Vascular Biology Organization (EVBO), American Society of Gene and Cell Therapy (ASGCT), European Society of Cardiology (ESC), International Society for Stem Cell Research (ISSCR), American Association for Cancer Research (AACR), American Society for Laser Medicine & Surgery (ASLMS), Società Italiana Ricerche Cardiovascolari (SIRC), European Society of Gene and Cell Therapy (ESGCT), Heart Failure Association (HFA)

Selected Honors and Panel Membership

- 2024 Selected for the Guido Tarone Award at the HFA Winter Meeting of the European Society of Cardiology
- Since 2021 Member of ERC Starting Grant Panel, LS7
- Since 2019 Member of FWO Med6 Panel
- Since 2018 Nucleus Member of the Working Group of Myocardial Function of the European Society of Cardiology
- 2017 ITWIIN Best Inventor Prize (IT Women in the fields of invention and innovation)
- 2016 Glass Prize for excellent women in art, work or sport
- 2010 Young Investigator Award by the European Society of Gene and Cell Therapy (ESGCT)
- 2006 Young Investigator Award at the Heart Failure 2006 Congress (Helsinki, Finland)
- 2006 Marie Curie Intra European Post-Doctoral Fellowship

Patents: "Apparatus for the prevention of cancer recurrence" (n. 102023000010590), "Soft end-effector for cell volumetric stimulation (SORCE)" (EP22190802), "microRNAs for cardiac regeneration through induction of cardiac myocyte proliferation" (RBW12595-PCT); "EMID2 protein as anti-cancer treatment" (MBP16915-EP); "anti-microRNAs for the treatment of leiomyoma" (102019000017234).

Main Research Support.

- 2024 ITA-AUS 2021-2027 PROMOS, 1.144.883€ (coordinator; 412,500€ to my group); FISA CANCEL 1.572.386,04€ (PI)
- 2023 WWCR – From cardiac contraction to cancer therapy, 158,000£ (PI); ERA4Health RESCUE 1.441.800€ total, 280800€ to my group (coordinator); Beneficientia Stiftung (CAGE, PI), 45,000€; TiiLT Horizon RIA (co-PI) 400,000€; PRIN – McHeart (Mechanotransduction in the HEART), 306,000€ (coordinator, 106,00€ to my group); Italian Foundation for Cystic Fibrosis, GenDelCF, Gene Delivery for Cystic Fibrosis, 314,000€ (co-PI); PRIN-PNRR – Dissecting the role of Nova2 in tumor angiogenesis, 125,000€ (co-PI)
- 2022 MOIRe program from Mochida Therapeutics, 50,000\$
- 2021 Associazione Italiana per la Ricerca sul Cancro IG2020 Id24529 (PI) 489,000€; Beneficientia Stiftung (AMATEUR, PI), 45,000€
- 2020 Interreg ITA-AUS InCARDIO - 1.132.876€ (coordinator, 398,000€ to my group); Beneficientia Stiftung (EMERITA, PI), 25,000€; Bayer Grants4Targets (PI), 20,000€

SCIENTIFIC ACTIVITY

My research field is the development of novel biotherapeutics for cardiovascular disorders, with a focus on the cross talk between multiple cell types in the heart and, more recently, on cardiac cancer. I have published > 130 full papers in peer-reviewed journals, including Nature, Journal of Clinical Investigation, Cell, Cancer Cell, Nature Genetics, Nature Medicine and others; 10 reviews or chapters in published books (h-index 45; sources: SCOPUS). I participated to over 100 scientific meetings, presenting my research activity as invited speaker. I have been invited to give numerous seminars at international scientific institutes and act as a reviewer for various peer-reviewed international grants and journals. I regularly contribute articles to national newspapers and popular science magazines.