CURRICULUM VITAE ABREVIADO (CVA)

Part A. PERSONAL INFORMATION

First name	FRANCISCO B.		
Family name	ORTEGA PORCEL		
Gender	MALE	Birth date (dd/mm/yyyy)	
Social Security, Passport, ID number			
e-mail	ortegaf@ugr.es	URL Web	https://www.webofscience.com/wos/author/record/B-4002-2010
Open Researcher and Contributor ID (ORCID)			orcid.org/0000-0003-2001-1121

A.1. Current position

Position	Full Professor (Catedrático)		
Initial date	27/07/2021		
Institution	University of Granada		
Department/Center	Deparment of Physical Education and Sports,Faculty Sport Sciences		
Country	Spain	Teleph. number	
Key words	Exercise, fitness, brain health, cardiovascular health		

A.2. Previous positions (research activity interuptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
2018-2021	Associate Professor (Prof. Titular), Univ. Granada.
2017-2018	Associate Professor-tenure track(Prof. Contatado Doctor),U.Granada.
2012-2017	Ramón y Cajal Researcher, Univ. Granada
2019-2012	Postdoc at Karolinska Institute, Sweden

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Doctor in Exercise Physiology	University of Granada, Spain	2008
Doctor in Medical Sciences	Karolinska Institute, Sweden	2008
Degree in Sport Sciences	University of Granada, Spain	2002

Part B. CV SUMMARY

Career summary

FB Ortega has applied and competed for nearly **all the scholarships and grants** provided by the Spanish Research and Education system, **succeeding in most** of them as described here. In the last year of his degree (2001/2), the applicant got a starting-up research grant (Beca de Colaboración, MEC) at the School of Medicine, Granada. After his graduation in Sport Sciences, the applicant started his PhD Thesis in Exercise Physiology at the same School. The beginning he was supported with 2 consecutive grants from the National Sport Council (Consejo Superior de Deportes, CSD) and in 2005 the applicant got the most prestigious Spanish training grant for PhD students (Beca FPU, MEC). The applicant did 2 research stays at **Karolinska Institute** as a PhD student (4-5 months each), where he officially started a **separate PhD Thesis**. He earned **two independent PhDs**, first PhD in **Exercise Physiology** at Faculty of Medicine (University of Granada, Spain), and second PhD in **Medical Sciences** at Karolinska Institutet, Sweden (2002-2008). In 2009, he got the National post-doc grant (beca post-doctoral del MEC) to stay at Karolinska Institutet for 2 years plus 1-year research contract (accumulating 3 years postdoc). During these 3 years living in Sweden, he did 3 short research stays at the **University of South Carolina** with the world-famous epidemiologist Prof. **Steven Blair**. In March 2012, FB Ortega was **ranked as number 1 in the application to the Ramón y Cajal**, area of Clinical Medicine and Epidemiology, and came back to the University of Granada, where he promoted through the academic career until he became **Full Professor in 2021 until today**. From Oct. 2021 he is also affiliated as Visiting Professor at the Faculty of Sport and Health Sciences at the University of Jyväskylä. **He founded** in 2013 **the PROFITH research group** (http://profith.ugr.es), and he has been the Co-Director from the beginning to date. The group has successfully grown **from the 5 original members to the current 70 contracted members** (**21 postdoc fellows**, 4 of them with Marie Curie grants) in 10 years.

Major impact in the scientific community

FB Ortega has **+470 JCR/Pubmed publications** (See-HERE), playing a leading role (**First/Last author) in 165** publications. They had a large impact in the scientific community as shown by the +**56000 citations** and a **h-index of 113** in Google Scholar, which ranks him within in the **top-10 most cited** researchers at the **University** of **Granada** out of **1700** researchers of all areas of knowledge and all ages (See-HERE). One of his **most cited paper** was published in 2008 as part of his PhD thesis and has accumulated already more than +3600 citations in Google Scholar. Currently, **14** of his publications have been classified by the Web of Science as **Highly-Cited Papers**, which means they are among in the **percentile 99th most cited.** In fact, FB. Ortega has been listed as Highly Cited Researcher 2022 by Clarivate, the most exclusive researcher list including only the **0.1% of the most cited researchers in the world**. Finally, it is worth mentioning that the **Faculty of Sports Science** of the University of Granada, in which the Dr. Ortega conduct his research from 2012, has been climbing up positions in the most-prestigious **Shanghai ranking to reach the 14th position in the World** (last update 2023, see HERE).

Major international collaborative actions

1. FB Ortega was selected by the World Health Organization (WHO) as part of the expert group which developed the **2020 WHO Physical Activity Guidelines**. 25 experts from USA, UK, Australia, Canada, The Netherlands, etc. The WHO guidelines are sent and adopted by most of Healthy Ministries in the World. These guidelines have also a high scientific impact and as shown by the main guideline paper, co-authored by FB Ortega, that has already accumulated +5500 citations in Google Scholar and is classified by the WOS as HOT PAPER (percentile 99.9th most cited).
2. He has participated as author in the "ACSM- Guidelines for exercise testing and prescription 11th edition" (Published on Feb 2021), a most influential worldwide training book (Book),
3. **Coordinator of the GRANADA International Consensus** on analytical approaches to analyze physical activity measured by accelerometers (2019-2022). 14 researchers, 6 countries authoring. (PMID:33846158)

The importance of dissemination and communication

Communicating the results in scientific journals is not enough, efforts should be made to reach the society with evidence-based messages. We are committed to this task and we communicate our research in social networks and prepare infographics and video abstracts of the results derived from funded projects, see as an example this infographic with >43000 views or the Dr. Ortega-led video about exercise and brain health with >77000 views and >100 likes. In fact, FB. Ortega has been ranked as Number 1 as scientific influencer among all the resaerchers at the University of Granada: InfluScience,

Major contribution to early careers of excellent researchers:

Supervision of 10 postdoctoral fellows (currently 5). 4 of them international and **2** of these were **Marie-Curie** Postdocs, the most prestigious/competitive in EU. **22 PhD students supervised** (Doctoral Theses already defended, 12 got the Award to Best Thesis) + 5 PhD students currently supervising (4 in Spain + 1 in Finland). **All these PhD and postdoc students had successful careers** and are currently working in Universities and 7 of them got already an Associate Professor (permanent) position. 3 of the former PhD students got the European prestigious Marie Curie (MSCA) postdoctotal grants, and 2 obtain the Ramón y Cajal Fellowship, the Spanish most competitive and prestigious research fellowship.

Part C. RELEVANT MERITS *(sorted by typology)*

C.1. Publications *(contribution and novelty described, also authorship position)*

Top-10 Selected Publications in topics of this grant application, sorted by topic and inverse date

*(All published **top-ranked Journals** in their fields. **Only First/Last author's papers** listed below)*

Papers about Sport Science and Cardiovascular-Overall Health:

1. **Ortega FB**, Leskošek B, Blagus R, et al. **(1/56)**. European fitness landscape for children and adolescents: updated reference values, fitness maps and country rankings based on nearly 8 million test results from 34 countries gathered by the FitBack network. **Br J Sports Med**. 2023;57(5):299-310. *Ortega led this international collaboration study providing the most up-dated and representative fitness reference values for European youth (8 million data, 34 countries), and even more important, a free-access, multilingual web platform, to generate individual reports based on fitness testing, which is unique in Europe and in the World (www.fitbackeurope.eu).*
2. Migueles, JH, Cadenas-Sanchez C, Lubans DR,…, **Ortega FB (16/16)**. Effects of an Exercise Program on Cardiometabolic and Mental Health in Children With Overweight or Obesity: A Secondary Analysis of a Randomized Clinical Trial. JAMA network open 6, e2324839 (2023). *In this study, we demonstrated that an exercise intervention can reduce total adiposity measured by gold-*

standard methods in up to 80% of children with overweight/obesity, as well as impact positively, visceral adiposity, LDL cholesterol and cardiorespiratory fitness.

3. Henriksson H, Henriksson P, Tynelius P, Ekstedt M, Berglind D, Labayen I, Ruiz, JR, Lavie CJ, **Ortega FB (9/9)**. Cardiorespiratory fitness, muscular strength, and obesity in adolescence and later chronic disability due to cardiovascular disease: a cohort study of 1 million men. **Eur Heart J** 2020; 41(15):1503-1510.
4. Henriksson P, Henriksson H, Tynelius P, Berglind D, Löf M, Lee IM, Shiroma EJ, **Ortega FB (8/8)**. Fitness and Body Mass Index During Adolescence and Disability Later in Life: A Cohort Study. **Ann Intern Med**. 2019;170:230-239.
   In papers 3-4 we studied 1 million participants over 30 years and demonstrated the relevance of fitness components and obesity as risk factors for chronic diseases (including cardiovascular and mental), leading to disability.
5. **Ortega FB**, Lavie CJ, Blair SN **(1/3)**. Obesity and Cardiovascular Disease. **Circulation Research**, 2016 May 27;118(11):1752-70. *WOS Ranked as Highly Cited Paper (99th centile) with 669 citations. This was a comprehensive (10000 words) invited review in the field of obesity, fitness and cardiovascular disease.*
6. **Ortega FB,** Sui X, Lavie CJ & Blair SN **(1/4)**. Body mass index, the most widely used but also widely criticized index: Would a criterion standard measure of total body fat be a better predictor of cardiovascular disease mortality? **Mayo Clin Proc**. 2016;91(4):443-55. *Here I questioned the current world-wide definition of obesity, "an excess of body fat", in favor of "an excess of body weight". I demonstrated this with empirical data using gold-standard methods and provided a plausible physiological explanation. Mayo Clinic Proceeding awarded the paper as most cited 2018.*
7. **Ortega FB,** Lee DC, Katzmarzyk PT, Ruiz JR, Sui X, Church TS & Blair SN **(1/7)**. The intriguing metabolically healthy but obese phenotype: cardiovascular prognosis and role of fitness. **Eur Heart J**, 2013;34:389-97. *WOS ranked it a Highly Cited Paper (99th centile), 334 citations. This paper received >300 press notes (including BBC and CNN). I demonstrated that cardiorespiratory fitness plays an important role in the cardiovascular prognosis in metabolically healthy obese individuals, which had important clinical implications.*
8. **Ortega FB**, Silventoinen K, Tynelius P, Rasmussen F **(1/4)**. Muscular strength in male adolescents and premature death: a cohort study of one million participants. **BMJ**. 2012 Nov 20; 345: e7279. *WOS ranked it Highly Cited Paper (99th centile), 373 citations. This paper was acknowledged as Most Popular BMJ's paper, with 51,908 views in 2 months. I linked for the first time muscular fitness in adolescence with future cardiovascular and psychiatric mortality/morbidity. This and some of my other papers contributed to created fitness national-level monitoring systems after fitness proved to be highly health informative.*

Papers on Brain Health:

9. **Ortega FB, Mora-Gonzalez J, Cadenas-Sanchez C, Esteban-Cornejo I, Migueles JH, Solis-Urra P,** Verdejo-Roman J, Rodriguez-Ayllon M, Molina-Garcia P, Ruiz JR, Martinez-Vizcaino V, Hillman CH, Erickson KI, Kramer AF, Labayen I, Catena A **(1/16)**. Effects of exercise on brain health outcomes in children with overweight/obesity: the ActiveBrains randomized controlled trial. JAMA Network Open 2022 Aug 1;5(8):e2227893.
   This is my biggest contribution in the field of exercise and brain health. This paper reports the ActiveBrain trial effects on primary outcomes and showed for first time strong evidence suggesting that intelligence can be effectively improved by exercise during growth, among other important findings. This study lays ground for school policy changes in physical education.
10. Esteban-Cornejo I, Cadenas-Sanchez C, Contreras-Rodriguez O, Verdejo-Roman J, Mora-Gonzalez J, Migueles JH, Henriksson P, Davis CL, Verdejo-Garcia A, Catena A, **Ortega FB (11/11)**. A whole brain volumetric approach in overweight/obese children: Examining the association with different physical fitness components and academic performance. The ActiveBrains project. **Neuroimage**. 2017 Aug 5; 159:346-354. *(WOS ranked 1st Journal in the field of Neuroimage). In this study, we identified structural regions of the brain more developed in fitter participants, and that were important for academic performance. This supports an important role of fitness in brain health.*

C.2. Congress

Main speaker in 30 conferences and presented poster/oral communications in >150 conferences. **Only a 5 relevant and recent international conferences, as keynote speaker**, are presented here as an example.

1. **Highlighted**: Invited Opening Lecture in the 27th Annual Congress of the European College of Sport Science. Aug. 2022, entitled "Effects of exercise on brain health in children".
2. Opening Lecture in the Congress of the Finnish Association of Sport Sciences in Jyväskylä, 2023,

entitled: “Effects of exercise on physical and mental/brain health in humans”

3. Keynote Lecture “Determinants and consequences of physical activity and sedentary behaviour in children and adolescents with obesity”. 28th European congress on obesity: Conducted online due to COVID-19 pandemic. 2021.
4. “Fitness and Health in Young People”. PHACtually Speaking Seminar Series, organized by the Canadian Public Health Agency. Canada (conducted online due to COVID-19 pandemic). 2021.
5. “Cardiorespiratory fitness and muscular strength in youth as predictors of future chronic disease”. International Summit Forum on “Exercise and Healthy China 2030”. Beijing, China. 2018.

C.3. Research projects

FB Ortega has participated in 30 projects. Below are **listed only** the **most relevant projects** and those in which **FB Ortega is Principal Investigator**:

- **VASCULACTIVE**. Effects of exercise on brain vascularization in coronary heart disease patients. Entidad financiadora: MINECO – I+D+I RETOS. 2021-2024. Budget: 121.000 €
- **HEARTY-BRAIN** - Effects of Exercise on Brain in Patients with Coronary Heart Disease: The Heart-Brain Connection. Plan Andaluz de Investigación (PAIDI) (Convocatoria 2020, Ref: P20_00124). 2021-2023. Budget: 116.000 €
- **ADVANCED EQUIPMENT** for assessing and improving health in general, sport and diseased populations: iMUDS. Ayudas de infraestructura, Junta de Andalucía. 2020-2022. Budget:394.714 €
- **FITBACK** - Programa SPO – Sport. The European Network for the Support of Development of Systems for Monitoring Physical Fitness of Children and Adolescents. European Comission (Erasmus plus call). 2020-2022 Budget: 400.000 € (41.652 € para la Univ. Of Granada)
- **PROYECTO GENOBEX** - Genes, Obesity And Exercise. Programa Operativo Fondos FEDER-Junta de Andalucía. 2020-2022. Budget: 33.400 €
- **MECABRAIN** - Peripheral mechanisms inducing neurogenesis, hippocampal function and mental health in children: The role of exercise. Minister of Economy and Competitiveness – Proyecto EXPLORA (Call 2017, Ref: DEP2017-91544-EXP). 2018-2020. 48.400 EUR. y cofinanciado por la Fundación Alicia Koplowitz con 50.000€.
- **CoCA** - Comorbid Conditions of Attention deficit / hyperactivity disorder. COMISIÓN EUROPEA. FB Ortega is Co-leader in 2 work-pakages and PI of the Univ. Granada-partner. 2016-2020. Total Budget 6 million euros, UGR Budget 105.000 EUR.
- **SMARTMOVE** - Exercise in the prevention and treatment of obesity and insulin resistance: smart analysis-smart interventions. Minister of Economy and Competitiveness (Call 2016, Ref: DEP2016-79512-R). 2016-2020. Budget: 121.000 EUR.
- **ACTIVEBRAINS** - Effects of an exercise-based randomized controlled trial on cognition, brain structure and brain function in overweight preadolescent children. Minister of Economy and Competitiveness (Call 2013, Ref: DEP2013-47540).2014-2017. Budget: 145.200 EUR.

C.4. Contracts, technological or transfer merits

Towards Intelligent Health and Well-Being Network of Physical Activity Assessment (The **INTERLIVE** Network). **Consortium project** composed of 7 European Universities, including UGR represented by FB. Ortega as PI. **Funded** by **Huawei** Technologies Oy Co. Ltd with a total 1.5 million €. The UGR budget is 160.000€. 2020-2022. Under the umbrella of the previous funded projects, ActiveBrain and SmartMove, we developed in the past resources and tools for the society that have been registered in Intellectual Property datasets (Safe Creative), i.e., 2kmFIT app, BMI classifier.

C.5. Research awards and prizes

FB Ortega has received 16 research awards/prizes during my career: Award to the best innovation in physical education, by the Andalusian College of Physical Education (2023); Award to the best investigation in Sports Medicine, granted by the Univ. of Oviedo, Spain (2020); Award to Most Cited Papers, granted by the University of Granada-Caja Rural (2020, 2017, 2016); Award to Most Cited Papers in 2018, granted by the Journal Mayo Clinic Proceedings (2019); Award to the Best Research Group in Sports Sciences in Spain, granted by the Asturian College (2018); “Third Millenium” Award to the Best Young Scientist in Andalucía, granted by the Andalusian Government, Spain (including all research areas, 2014); Prize to the Best scientific trajectory of young scientists, received from the University of Granada (2013). Three consecutive awards to one of my PhD publications as one of the most internationally cited papers in the long term, granted by the Spanish Society of Cardiology, Spain (2006, 2008 &2011)