Francisco J. Valero-Cuevas, PhD, ScD (h.c.)

Curriculum Vitae

October 2020

http://valerolab.org and https://en.wikipedia.org/wiki/Francisco_Valero-Cuevas

Present employment:

2007-present University of Southern California, Los Angeles, CA
Full Professor with Tenure (since 2011)
Department of Biomedical Engineering and Division of Biokinesiology & Physical Therapy
By courtesy:
Department of Aerospace and Mechanical Engineering
Department of Computer Science
Department of Electrical Engineering (Systems)
Neuroscience Graduate Program

Professional Areas: Neuromuscular Control, Sensorimotor Integration, Human Dexterous Manipulation, Biomechanics, Robotics, Computer Modeling of Neuromuscular Systems, Optimization of Surgical and Non-Surgical Rehabilitation, Electromyography, Nonlinear System Dynamics, Mechanical Design, Entrepreneurship

Academic training:

PhD	**1997**, Design and Biomechanical Engineering Divisions, Mechanical Engineering **Stanford University**, Stanford, CA
MS Eng	**1991**, Mechanical Engineering **Queen's University**, Kingston, Ontario, Canada
BS	**1988**, Engineering **Swarthmore College**, Swarthmore, PA

Prior Academic Positions

Professorships

1999-2007	Assistant and Associate Professor with Tenure Sibley School of Mechanical & Aerospace Engineering, **Cornell University**
1999-2007	Assistant and Associate Professor with Tenure of Applied Biomechanics Department of Orthopaedic Surgery, **Weill Medical College, Cornell University**
1997-1999	Consulting Assistant Professor, Department of Functional Restoration **Stanford University School of Medicine**
1997-1999	Lecturer and Research Associate, Biomechanical Engineering Division Mechanical Engineering Department, **Stanford University**

Guest Professorships

2012-2013	Institute of Sport Sciences, **Leopold-Franzens-Universität Innsbruck**, Austria
2005-2006	Department of Health Sciences and Technologies, **ETH Zurich**, Switzerland
2005-2006	**Max Planck Institute for Human Cognitive and Brain Sciences**, Munich, Germany

Teaching Multiple undergraduate and graduate courses at Stanford University, Cornell University and University of Southern California

Select Awards and Honors

2018	**Honorary Doctor of Sciences (in the field of Biology)**, Swarthmore College, Swarthmore, PA. For *combining multiple fields to understand how the brain controls the body, and its clinical and robotic applications*
2018	**2017-2018 Northrop Grumman Excellence in Teaching Award**, Viterbi School of Engineering, University of Southern California
2017-2021	**Study Section Regular Member**. NIH, Sensorimotor Integration (SMI) Study Section.
2015	Orange County Engineering Council **OCEC President's Prestigious Award**. *For Scholarly and Outstanding Contributions to the Engineering Profession*
2014	**Elected Fellow**, College of Fellows of the American Institute for Medical and Biological Engineering (AIMBE). *For Outstanding Contributions to the Mathematical and Engineering Understanding of the Neural Control of Limbs to Produce Versatile Function*
2013	**Elected Senior Member** of the IEEE

2013	**Outstanding Technical Achievement Award**. 25th Conference Hispanic Engineer National Achievement Awards Corporation (HENAAC), Great Minds in STEM
2011	**Mellon Award** for Undergraduate Mentoring
2006	**Wenner-Gren Fellowship.** From the Wenner-Gren Foundation to work at Neuropediatric Research Unit of the Karolinska Institute in Stockholm, Sweden
2005-2009	**Study Section Regular Member**. NIH, Motor Function, Speech and Rehabilitation (MFSR) Study Section
2005-2006	**Humboldt Research Fellowship.** From the Alexander von Humboldt Foundation to work at the Max Planck Institute for Human Cognitive and Brain Sciences in Munich, Germany
2003	**Post-Doctoral Young Scientist Award**, American Society of Biomechanics. Annual Meeting, Univ. of Toledo, Toledo, OH
2003	**National Science Foundation Faculty Early Career Development Program CAREER award**.
1999	**Ersten Preis, Tiroler Innovationspreis** (First Prize, Innovation Prize from the State of Tirol) For the design of a reusable frame system to create architectural arch forms, Innsbruck, Austria
1998	**Best Poster Post-Doctoral Award**, First National Meeting of the Rehabilitation Research and Development Service of the Department of Veterans Affairs. Washington, DC
1988-1989	**Fellow, The Thomas J. Watson Foundation**, to study Sankhya Yoga Philosophy in India/Nepal.
1987	**First Prize, Outstanding Undergraduate Research Paper Award**, Philadelphia Club of Engineers
1984-1988	**4-year Undergraduate Engineering Scholarship**, Swarthmore College

Entrepreneurship

2015-present	**Founder and CEO: *Neuromuscular Dynamics, LLC*.** Startup to quickly and easily measure and compare sensorimotor abilities in health and disease using cloud computing
2015-present	**Co-Founder: *Acceso Academy*** (AccesoAcademy.org). Nonprofit to provide high-quality, low-cost SAT and GRE prep for economically disadvantaged students to achieve their full academic potential

Research Support

1995-present	As graduate student and post-do: Multiple grants from Veterans Affairs Rehabilitation Research Service. As PI: R01 and R21 NIH grants, NSF CAREER, NSF EFRI, NSF IGERT, DARPA, NASA, etc. As co-PI: NIDRR, DoD CDMRP, etc.

Patents

2017	Ravi Balasubramanian, Taymaz Homayouni , **Valero-Cuevas FJ**. Implanted Passive Engineering Mechanisms And Methods For Their Use And Manufacture. U.S. Patent No. 9,925,035. filed May 29, 2015, Approved November 15, 2017. Granted: March 27, 2018
2012	**Valero-Cuevas FJ**, Alexander Reyes, Christianne Heck, and Charles Liu. Efficient functional mapping of human brain via sparse experimentation. US Provisional Patent filed October 19, 2012
2003	**Valero-Cuevas FJ**. Finger force and grasping dexterity measuring device. US Patent No. 6,537, 075. Filed: December 12, 2000. Granted: March 27, 2003
1999	**Valero-Cuevas FJ**, Sulzenbacher E, Hetzenauer S. Easily adjustable, reusable arch forming assembly for creating a framework for constructing arches and archways. European Union Patent No. 0808965. US Patent No. 6,000, 193. Filed: March 3, 1998. Granted: December 14, 1999

Publications

Books:

Fundamentals of Neuromechanics, **Valero-Cuevas, FJ**. Springer-Verlag London 2015. Series in Biosystems & Biorobotics Vol. 8

Peer-reviewed Journal Articles, Abstracts and other publications:

Google Scholar profile, and http://valerolab.org/publications/

Languages

Fluent in: English, Spanish, German
Working knowledge: Italian, French