



Costa Rica  
April 22, 1985

# ALBERTO SÁNCHEZ

## PROFILE

Passionate about biomechanics, I have been in research and human movement analysis for the last 5 years, 10 years of experience in problem solving as engineer and over 20 years as Taekwondo athlete/coach, with knowledge on human performance, based on different technologies such as MOCAP, EMG, force plates, pressure mapping, IMU, and human musculoskeletal modelling.

## WORK EXPERIENCE

2020 – Current | Body Health Rehabilitation Center, Berlin. Kinesiotherapy.

Kinesiotherapy in a Clinical Setting and functional rehabilitation-treatment of patients.

2015 – Current | Research & Performance Biomechanics, Costa Rica. Co-founder

Customized online trainings of represented leading manufacturers: Qualisys, Delsys, Tekscan, AMTI, GaitUp, Theia Markerless, h/p/cosmos, Tobii, and AnyBody Technology. Introduction and development of biomechanical equipment for Latin America and gait courses instruction.

2018 – 2020 | New Technologies Research Centre, University of West Bohemia, Czech Republic. Research fellow in Biomechanics.

Gait analysis research for transfemoral amputees by musculoskeletal simulation. Proposal for a new amputee's gait report. Simulation in AnyBody™ Modeling System. Support on other sports/clinical projects.

2016 – 2018 | ErgoTEC, Costa Rican Institute of Technology. Research fellow in biomechanics (part-time).

Principal investigator for 3D Virtual Biomechanical Model in a Manual Material Handling research project. Data collection and analysis from 120 participants. Leader of multidisciplinary group (15 people).

2015 –2018 | Fundatec. Lecturer of sports technology and infrastructure. Course leader and curricula design in conjunction with National Olympic Committee of Costa Rica

## QUALIFICATIONS

2020 - current | Clinical Exercise Science Master/Ph.D. Student. Potsdam University, Germany

2012-2013 | Master of Science in Sports Engineering. Sheffield Hallam University, United Kingdom

2010 | Bachelor in Industrial Maintenance Engineering. Costa Rican Institute of Technology.

## CONTACT



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## LANGUAGES

Spanish (Native)

English (C1)

German (A1)

## HOBBIES



## MAIN PUBLICATIONS, INVITED SPEAKER AND COURSES TAUGHT

Author: **Sanchez-Alvarado, A.** Biomechanical alterations as potential risk factors for ACL re-injury in soccer: a systematic review. Poster at the XXVIII Congress of the International Society of Biomechanics. ISB 2021, Sweden. Accepted (in press)

Author: **Sanchez-Alvarado, A.**, Beránek, V., & Novacek, V. Body segments' angular momentums correlation with impact peak forces and impulse of 3 different ground striking techniques in MMA: a case study. Conference Proceedings ECSS Seville 2020, Spain.

Author: **Sánchez-Alvarado A.**, Nováček V. and Křen J. A framework to assess mechanics of stump-socket interaction in transfemoral amputees. Clinician and Technology Journal 2019, vol. 49(2), pp. 46–51, DOI: 10.14311/CTJ.2019.2.02 ISSN 0301-5491 (Print), ISSN 2336-5552 (Online)

Author: **Sánchez-Alvarado A.**, Nováček V. and Křen J. Framework for prosthesis optimization and subject-specific rehabilitation for transfemoral amputees. 4th International Conference on Movement Analysis, Kladno 2019, 34-35, ISBN 978-80-01-06587-7

Author: **Sánchez-Alvarado A.**, Sánchez-Brenes O., Sánchez-Brenes M., Zerpa-Catanho M., Vargas-Del Valle C., Céspedes-Calderón G. Intra- and inter-somatotype differences in a manual material handling task. Computational Mechanics 2018, Srní, 93-94 ISBN 978-80-261-0819-1

Co-Author: Argothy, R., Munoz, F., **Sanchez-Alvarado, A.** Sports applied kinematics, Module 2. Book Chapter, Coldeportes, 2018.

Invited speaker: **Swimming Sports Technology and Simulation Tendencies.** III International Congress of Swimming Sports Applied Sciences. Universidad de Costa Rica, 2019.

Invited speaker: **The creation of a sports information center.** I International Seminar in Governance, sport management and olympism. National Olympic Committee of Costa Rica, June 2019.

Clinical Gait Analysis co-instructor: Course for medical doctors and physiotherapists, June 2019. ErgoTEC Costa Rica. Fifteen participants

Invited speaker: **The role of biomechanics in injury prevention.** UNIBE University-National Olympic Committee of Costa Rica, 2018.

Invited speaker: II International Congress of Swimming Sports Applied Sciences. **Sports Performance Technology.** I Seminar of Sports Medicine and Physical Activity. Universidad de Costa Rica, 2017.

Invited speaker: **Gait Analysis and Jump analysis in biomechanics.** IX International Congress of Physiotherapy. Santa Paula University, Costa Rica, 2017.

Invited speaker: **Biomechanics review of running, swimming and cycling.** Sports Biomechanics Symposium. National Olympic Committee, 2016.

Gait Analysis courses instructor: for Medical doctors and physiotherapists, ErgoTEC, 2017 & 2018.

## BIOMECHANICAL SYSTEMS AND SOFTWARE

Motion Capture: Qualisys Track Manager, Theia Markerless and Visual3D advanced-level

Kinetics: Kistler Bioware, Bertec Digital Acquire, AMTI, Tekscan advanced-level

EMG: Delsys EMGWorks mid-level

IMU: GaitUp, X-Sens mid-level

MSK simulation: AnyBody Modeling System mid-level

## SPORTS

2011-2012 Head Coach of National Poomsae Team, Costa Rica.

2011, 2014 and 2015 | Head Coach of Taekwondo University National Team. Achievements: 12 Gold Medals, 18 Silver Medals, 25 Bronze Medals at American continent level.

2011 Scholar World Taekwondo Federation International Coaches Course. First scholar from Costa Rican for a 3-weeks intensive International Taekwondo Coach Program at Kyung Hee University, South Korea.

2008 – 2018 Head Coach of Taekwondo Team, Costa Rica Institute of Technology. More than 100 athletes trained and 10 of which were selected for the Costa Rican National Team.

2004, 2005 and 2006 Consecutive National Champion in Taekwondo at Bantam-weight category.