



Yumna Ali

Nationality: Pakistani | **Gender:** Female | yumna.ali@univr.it

● EDUCATION AND TRAINING

OCT 2020 – CURRENT

PHD IN NEUROSCIENCE, PSYCHOLOGICAL AND PSYCHIATRIC SCIENCES, AND MOVEMENT SCIENCES – University of Verona, Italy.

OCT 2016 – JUL 2019

MASTER OF SCIENCE IN PHYSICAL ACTIVITY AND HEALTH PROMOTION. – University of Rome Tor Vergata, Italy.

This Program gave basic knowledge about physical and functional assessments concerning individual-specific characteristics:

- Set up training programs and physical activities for groups and/or individuals.
- Set up courses to promote health and amateur sports.
- Set up rehabilitation programs through physical activities for health promotion and disease prevention.
- Be able to relate to and communicate with institutions, associations, and families as managers.
- Knowledge of the main regulations regarding the physical activity sector, coaches' legal responsibilities, and basic ethical principles relating to their profession.
- Be able to identify and avoid dangerous situations that may occur while training; able to cooperate with medical teams to cure and prevent pathologies such as chronic-degenerative diseases.

Field(s) of study

- Sport Sciences

JAN 2011 – JAN 2015

BACHELOR OF SCIENCE IN PHYSICAL THERAPY – Jinnah Post Graduate Medical Centre, Karachi (Pakistan)

To work as a Physiotherapist, having expertise in Human Anatomy and Physiology, Bio-Mechanics, Specific Movement Techniques/Exercise, Joint Mobilization/Manipulation, Proprioceptive Neuromuscular Facilitation, Neuro-Developmental Technique, Physics, Biochemistry, Bio-Statistics, Pathology, Medicine, Neurology, Physiotherapy Treatment technique, Hydrotherapy, Clinical Practice, Orthopedics, Electrotherapy, and Actinotherapy and Research Methodology.

Field(s) of study

- Physical Therapy

● WORK EXPERIENCE

JAN 2020 – DEC 2020

VISITING LECTURER – PRIME INSTITUTE OF HEALTH AND SCIENCE, ISLAMABAD (PAKISTAN).

Appointed as a Visiting Faculty Lecturer to teach Exercise physiology and neurophysiology to undergraduate students.

JUN 2019 – SEP 2019

RESEARCH TRAINEESHIP – DEPARTMENT OF BIOMECHANICS & MOTOR CONTROL OF HUMAN MOVEMENT, GHENT (BELGIUM)

Title: Motor retraining by real-time sonic feedback: understanding strategies of the low impact running.

Pieter Van den Berghe, Rud Derie, Joren Six, dr. Pieter Fiers, dr. Bastiaan Breine, Prof. dr. Marc Leman, Prof. dr. Dirk De Clercq. (Department of Biomechanics & Motor Control of Human Movement, Ghent University, Belgium.)

Summary: Running is a popular leisure-time physical activity though many runners encounter overuse injuries when loading is higher than the ability to withstand load (e.g. bone stress injuries). Epidemiological research identified impact loading as a risk factor. An ambulant device that registers the impact shock at foot contact and translates it into audio feedback was developed. Such real-time impact sonification could reduce the magnitude of the repetitive impact in high impact runners to an acceptable level. A group of trained runners with elevated impact intensity will undergo a gait retraining program to alter their running style (randomized controlled trial). Contrary to most research in which instructions about running style and lower impact loading are given, we only provide the runner real-time audio biofeedback on impact shock during overground running sessions. A biomechanical analysis (3D kinematics-kinetics,

tibial accelerations), assessment of running economy, and measurements of muscular strength of the muscles situated around the ankle joint will provide insights on how people reduce their running impacts. I have worked in this research as an intern and did data analysis on Qualisys.

OCT 2018 – DEC 2018

RESEARCH SCHOLAR – DEPARTMENT OF BIOMECHANICS, UNIVERSITY OF NEBRASKA, OMAHA (USA)

Title: Quantifying foot temperature by using thermography, A Study by NASA.

Dr-Andrew Kern, Dr-Kota Takahashi, Nikolaos Papachatzis, Greg Faber (Department of Biomechanics, University of Nebraska, Omaha, USA)

Summary: The purpose of the project was to develop a system for reliably quantifying foot temperature using thermography. This is because foot temperature has been related to pathology (foot ulcers) in diabetic populations, despite this, there are no published methods for reproducibly measuring regional foot temperature changes using thermography. We verified this project in a cohort of healthy participants when walking for 30 minutes (temperature measured @ 5minute intervals) and when cooling for 20 minutes (temperature measured @ 30-second intervals). Astronauts exhibit physiological changes following spaceflight that have similarities to individuals with diabetes and peripheral artery disease. We can use this technique to determine body changes on astronauts upon return to earth. I was in the data collection team and record the data of many subjects by using infrared Cameras and later analyze it on the software ResearchIR.

OCT 2015 – OCT 2016

CLINICAL PHYSIOTHERAPIST – THE KIDNEY CENTRE POST GRADUATE TRAINING INSTITUTE, KARACHI, PAKISTAN.

JAN 2014 – DEC 2014

ASSISTANT PHYSIOTHERAPIST – JINNAH POST GRADUATE MEDICAL CENTRE, KARACHI (PAKISTAN)

● **SCIENTIFIC AFFILIATIONS**

Current Affiliation with Department of Neuroscience and Human Movement, University of Verona, Italy.

Former faculty of Prime Institute of Health and Science, Islamabad (Pakistan).

Alumni of University of Rome Tor Vergata, Italy.

Alumni of University of Karachi (JPMC) Karachi, Pakistan.

Member of PPTA (Pakistan Physical Therapist Association).

● **AREAS OF RESEARCH**

Rehabilitation Science & Clinical Gait Analysis (e.g., Limb Amputation, Stroke, Diabetes) Human Movement Variability, Biomechanics; Motor Control, Ergonomics, Biomedical Engineering, Biotechnology, Bioengineering, Transcranial electromagnetic stimula

● **AWARDS/GRANTS**

Current Grant, Italian National Scholarship 2020, University of Verona, Italy.

Study Abroad Scholarship 2018,(1500€) Office of International Programs at the University of Rome Tor Vergata, Italy.

● DIGITAL SKILLS

Programmin language MATLAB

Lab Instruments experience: • 3-D Video-Based Motion Analysis System (Motion Analysis Corporation),

Visual3D, Qualisys, LabView, Vicon/Nexus, ResearchIR, Kinovea, Endnotex7, Mendely, Zotero, Go.Data,

● DIGITAL SKILLS, LAB INSTRUMENTS EXPERIENCE

Digital Skills, Lab Instruments Experience

- **Programming Language:** MATLAB, C++, JAVA
- **Software:** Visual3D, Qualisys, LabView, Vicon/Nexus, ResearchIR, Kinovea, Endnotex7, Mendeley, Zotero, Go.Data, SPSS, MS Office, Psychtoolbox
- **Lab Instruments experience:** 3-D Video-Based Motion Analysis System (Motion Analysis Corporation), Force Platforms (Bertec), Loadsols, Instrumented Treadmill, Motion Monitor (Innovative Sports Training), Electrogoniometers, Ultrasound Imaging (GE), Thermographic/Infrared Cameras and Therapeutic instrument used for Physical Therapy.

● CERTIFICATE COURSE/CONFERENCES/SEMINARS.

Certificate Course/Conferences/Seminars.

- Certificate Course from Harvard Medical School in ICU Management of Coronavirus Patients.
- Certificate Course From WHO, "Emerging respiratory viruses, including COVID-19: methods for detection, prevention, response, and control."
- Certificate Course From WHO, "Introduction to Go.Data – Field data collection, chains of transmission, and contact follow-up"
- 12th Neurology Certificate Course, Jan 28-March 24, 2016, From Agha Khan University Hospital, Karachi, Pakistan.
- Certified Course in K-Taping for Sports And Musculoskeletal Disorders from Dow University of Health and Sciences, Karachi, Pakistan.
- "First Aid Skills & Basic Life Support" from Dow University of Health and Sciences, Karachi, Pakistan
- IELTS: 6.5 bands.
- Italian Language A1 Certificate from the University of Rome, Tor Vergata.
- Italian Language B1 Certificate from CPIA2, Rome.

● LANGUAGE SKILLS

Mother tongue(s): URDU

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C2	C2	C2
ITALIAN	A2	A2	A1	A1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user