Chiara ROMANO

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Current Position

- From 2024 - Postdoctoral Research Fellow at Unit of Measurements and Biomedical Instrumentation - Departmental Faculty of Engineering, Università Campus Bio-Medico di Roma (UCBM)

Scientific Qualification

- Ph.D. Candidate in Biomedical Engineering - Science and Engineering for Humans and the Environment at Unit of Measurements and Biomedical Instrumentation - Departmental Faculty of Engineering Università Campus Bio-Medico di Roma (UCBM). Thesis completed, pending defense: Wearable Technologies and Sensors for Enhanced Physiological Monitoring in Sports and Healthcare

Education and training

- 2021 – M.Sc. degree cum laude in Biomedical Engineering from the Università Campus Bio-Medico di Roma.
- 2019 – B.Sc. in Biomedical Engineering from the Università Campus Bio-Medico di Roma (UCBM).

Work experience

- From 2021 to 2024 – PhD student, Unit of Measurements and Biomedical Instrumentation - Departmental Faculty of Engineering, Università Campus Bio-Medico di Roma (UCBM)
- 2024 – Visiting PhD at the Biorobotics and Medical Technology Laboratory - Department of Engineering, Heidelberg University, Germany.

Main teaching experience

- 2025 - Assistant of Measurements and Instrumentation in Biomedical Engineering and Standards for Medical Devices (6 CFU - SSD ING-IND/12) of the master's degree Program in Biomedical Engineering, Università Campus Bio-Medico di Roma
- 2024 - Assistant of Measurements (6 CFU - SSD ING-IND/12) of the Bachelor Degree program in Industrial Engineering, Università Campus Bio-Medico di Roma
- 2023 - Assistant of Laboratory of Measurements (6 CFU - SSD ING-IND/12) of the Bachelor Degree program in Industrial Engineering, Università Campus Bio-Medico di Roma

Honours and Awards

- 2023 - Best Student Paper Award "Design and Development of A Flexible Wearable Sensor Based On A Conductive Textile For Breathing Monitoring". 2023 International Workshop on Biomedical Applications, Technologies and Sensors (BATS).
- 2022 - Best Abstract at the 'International Summer School on Wearable Sensors in Sport'.

Workshop and special session organizer

- 2024 – Chair and Organizer of the Special Sessions entitled "Unobtrusive Monitoring of Physiological Parameters and Human Activities: sensors, algorithms and applications", at 2024 IEEE International Workshop on Metrology for Industry 4.0 and IoT
- 2025 – Chair and Organizer (Scheduled) of the Special Session entitled "Wearable Sensors in Bioengineering", at 2025 XI INTERNATIONAL CONFERENCE ON COMPUTATIONAL BIOENGINEERING

Main publications related to the topic of the proposed lecture

1. **Romano, C.**; Nicolò, A.; Innocenti, L.; Sacchetti, M.; Schena, E.; Massaroni, C. Design and Testing of a Smart Facemask for Respiratory Monitoring during Cycling Exercise. Biosensors 2023.
2. **C. Romano**, L. Innocenti, E. Schena, M. Sacchetti, A. Nicolò and C. Massaroni, "A Signal Quality Index for Improving the Estimation of Breath-by-Breath Respiratory Rate During Sport and Exercise," in IEEE Sensors Journal, 2023.
3. Innocenti L*, **Romano C***, Greco G, Nuccio S, Bellini A, Mari F, Silvestri S, Schena E, Sacchetti M, Massaroni C, et al. Breathing Monitoring in Soccer: Part I—Validity of Commercial Wearable Sensors. Sensors. 2024. *equally contributed.
4. **Romano C**, Lo Presti D, Silvestri S, Schena E, Massaroni C. Flexible Textile Sensors-Based Smart T-Shirt for Respiratory Monitoring: Design, Development, and Preliminary Validation. Sensors. 2024.
5. **Romano, C.**; Nicolò, A.; Innocenti, L.; Bravi, M.; Miccinilli, S.; Sterzi, S.; Sacchetti, M.; Schena, E.; Massaroni, C. Respiratory Rate Estimation during Walking and Running Using Breathing Sounds Recorded with a Microphone. Biosensors 2023.
6. C. Massaroni, M. Sacchetti, **C. Romano**, E. Schena, L. Innocenti and A. Nicolò, "The effects of different algorithms on the performance of a strain-based wearable device estimating respiratory rate during cycling exercise," 2023 IEEE International Workshop on Metrology for Industry 4.0 & IoT (MetroInd4.0&IoT), Brescia, Italy, 2023.
7. **Romano, C.**, Formica, D., Bravi, M., Miccinilli, S., Sterzi, S., Schena, E., & Massaroni, C. (2023, June). Smart Vest And Adaptive Algorithm For Vital Signs And Physical Activity Monitoring: A Feasibility Study. In 2023 IEEE International Symposium on Medical Measurements and Applications (MeMeA) (pp. 1-6). IEEE.
8. C. Massaroni, **C. Romano**, A. Nicolo, L. Innocenti, M. Sacchetti and E. Schena, "Continuous respiratory rate estimation with a wearable temperature sensor during cycling exercise: a feasibility study," 2022 IEEE International Workshop on Sport, Technology and Research (STAR), Trento - Cavalese, Italy, 2022.
9. D. L. Presti, **C. Romano**, C. Leitão, C. Massaroni, D. Formica and E. Schena, "A soft sensor based on FBG technology for heart rate monitoring in archery," 2022 IEEE International Symposium on Medical Measurements and Applications (MeMeA), Messina, Italy, 2022.
10. **Romano, C.**; Schena, E.; Formica, D.; Massaroni, C. Comparison between Chest-Worn Accelerometer and Gyroscope Performance for Heart Rate and Respiratory Rate Monitoring. Biosensors 2022.
11. Lo Presti, D., **Romano, C.**, Massaroni, C., D'Abbraccio, J., Massari, L., Caponero, M. A., Oddo C. M., Formica, D., Schena, E. Cardio-respiratory monitoring in archery using a smart textile based on flexible fiber Bragg grating sensors. Sensors 2019.