

Title: T-MAROLCOV - Tele Monitoring and Rehabiliation of Long COVID19 Patients

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Following the COVID-19 pandemic we expect a large number of survivors with serious chronic respiratory issues, including pulmonary fibrosis. Their rehabilitation needs to be supported with efficient home care monitoring and rehabilitation solutions. The complexity of the diseases necessitates a telemedical approach to involve the specialists in the therapy decisions. We aim to improve the quality of life of patients and relatives, reduce hospitalizations, reduce the costs of patient monitoring, enhance time-efficiency, and aid the information management. In order to do so, we introduce medical sensors designed with a focus on infection control and easy integration to or into mobile phones. Our methods target key issues in medical device developments such as increasing bureaucracy of validations/certifications, cost, time to market and volume. That is a major burden especially in an efficient roll-out in home care medical devices. We believe that mobile phone manufacturers hold the key to the wide scale use of telemedicine in diagnostics, monitoring and even in therapy optimization. Medical sensors and actuators need to be integrated into mobile phones, similar to digital cameras. We demonstrate the concept with respiratory sensors and occlusion add-ons for pulmonary rehabilitation. The integrated system runs a pharmaceutical administration optimization software which can be quickly configured for use with novel drugs. A decision support system based on the latest ATS standards opens up possibilities for a potential fully automated interpretation in the future. Early results demonstrate good applicability and an easy integration into pharmaceutical testing systems.

Biography

Gyoergy (George) L. Ferenczi has completed his M.Sc. at the age of 23 from the Technical University of Budapest (Hungary), followed by postgraduate studies at the State University of New York at Buffalo (USA), the Tampere University of Technology (Finland), the Helsinki University of Technology (Finland) and at the La Trobe University (Australia).
He is the founder of medical technology start-ups in the field of respiratory diagnostics, monitoring, cardiology and molecular imaging. He currently lives in Melbourne, Australia.

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