

Qualifications of the individual for defining area of expertise

Name/ Birth year	Eliasz Kańtoch
Title (year degree obtained) / Prof. status	Ph. D. BME. (2013) / research scientist DSc. BME (2019) /university professor
Address ¹	AGH University of Science and Technology, 30, Mickiewicza Ave. 30-059 Krakow, Poland
Area of expertise ²	biomedical signal processing, wearable computing, wireless sensor networks, artificial intelligence, telemedicine, medical devices
Relevant (best) publications ³	<ol style="list-style-type: none"> 1. Kańtoch E, Kańtoch A. <i>Cardiovascular and Pre-Frailty Risk Assessment during Shelter-In-Place Measures Based on Multimodal Biomarkers Collected from Smart Telemedical Wearables</i>. <i>Journal of Clinical Medicine</i>. 2021; 10(9):1997. IF: 4.242 2. Kańtoch E, Kańtoch A. <i>What Features and Functions Are Desired in Telemedical Services Targeted at Polish Older Adults Delivered by Wearable Medical Devices?—Pre-COVID-19 Flashback</i>. <i>Sensors</i>. 2020; 20(18):5181. IF: 3.676 3. Kańtoch Eliasz <i>Recognition of Sedentary Behavior by Machine Learning Analysis of Wearable Sensors during Activities of Daily Living for Telemedical Assessment of Cardiovascular Risk</i>. <i>Sensors</i> 2018, 18, 3219 IF: 3.676 4. Piotr Augustyniak, Magdalena Smoleń, Zbigniew Mikrut and Eliasz Kańtoch "Seamless Tracing of Human Behavior Using Complementary Wearable and House-Embedded Sensors" <i>Sensors</i>, vol. 14(5), 2014, pp. 7831-7856, IF: 2.964 5. Kańtoch, E., & Augustyniak, P. (2013). <i>Technical verification and analysis of implementation of wearable sensors for providing telemedical services in home environment</i>. <i>Journal of Critical Care</i>, 28(6), e42. IF: 2.648. 6. Jaromir Przybyło, Eliasz Kańtoch, Mirosław Jabłoński, Piotr Augustyniak "Distant measurement of plethysmographic signal in various lighting conditions using configurable frame-rate camera", <i>Metrol. Meas. Syst.</i>, Vol. 23 (2016), No. 4, pp. 579–592, IF: 1.598. 7. Jaromir Przybyło, Eliasz Kańtoch, Piotr Augustyniak, <i>Eyetracking-based assessment of affect-related decay of human performance in visual tasks</i>, <i>Future Generation Computer Systems</i>, vol. 92, 2019, pp. 504–515, IF=3.999 8. Kańtoch, E., Tadeusiewicz, R. (2017). <i>Aparatura medyczna nowej generacji: wyzwania związane z telemedycyną (New-generation medical devices : challenges associated with telemedicine)</i>. <i>OPM Ogólnopolski Przegląd Medyczny</i>, nr 11–12, pp. 32–36. ISSN 1641-7348.
Publications statistics:	Google Scholar: Publications: 55, Citations: 533, H-index: 15 Scopus: Publications: 38, Citations: 317, H-index: 12
Other ⁴	<i>didactic responsibilities</i> 2019 – to date, Lecturer at AGH-UST, "Intelligent mobile technologies" 2013 - to date, Lecturer at AGH-UST, "Object oriented programming" 2009 - to 2013, Lecturer at AGH-UST, "Data Structures and Algorithms" 2009 - to 2013, Lecturer at AGH-UST, "Computer programming" 2010 - to date, Lecturer at AGH-UST, "Programming Basics"

¹ Organisation, street address, telephone, email, web page

² With keywords characterising your field(-s) of expertise

³ Max. 10

⁴ List didactic, major grants, conference responsibilities, professional recognitions, memberships, journals, patents, etc.

2010 - to date, Lecturer at AGH-UST, "Telemedicine"

2010 - to date, AGH-UST, supervision of 1 PhD candidates, 18 Master's, 25 BSc students, with their thesis/diploma

didactic recognition

- winner of the 1st place in the Crystal Chalk competition (2022) for teaching achievements (biomedical engineering) at the Faculty of Electrical Engineering, Automatics, Computer Science and Biomedical Engineering

- Winner of the 2nd place in the "Crystal Cursor" competition (2021) for teaching achievements (biomedical engineering) at the Faculty of Electrical Engineering, Automatics, Computer Science and Biomedical Engineering

- member of Executive Academic Council of the Fulbright and Top500 TopMinds Mentoring Program (2021-2023) – mentoring of 1 PhD candidate and 1 MD student

- laureate of the ministerial international project Masters of Didactics, under which he completed a training entitled "Advanced Teaching and Tutoring Qualification" on June 27, 2022 - July 1, 2022 implemented by the University of Groningen (<https://www.rug.nl/>) on behalf of the Ministry of Education and Science

- co-author of the educational program for the new field of study Medical Informatics

academic mobility

- Stanford University (2011)
- Fraunhofer Leipzig (2013)
- IBM Thomas J. Watson Research Center (2013)
- University Collage London (2018)

major grants (as Project Director)

Title: Investigation of using wearable technologies for human monitoring

Period: 2011-2014

Centre: AGH University of Science and Technology

Number of persons: 5

Funds: National Research Centre: EUR 30.000

Number of persons: 5

Title: Investigation of application of wearable sensors to provide telemedicine services

Period: 2015-2017

Centre: AGH University of Science and Technology

Funds: National Centre for Research and Development: EUR 50.000

Number of persons: 7

major grants (as Investigator)

Title: Investigation of multimodal sensing of selected physiological parameters in human with assessment of their utility in the premise infrastructure of disabled

Period: 2008-2012

Centre: AGH University of Science and Technology (N N518 426736)

Funds: State Committee for Scientific Research: EUR 212.000

Number of persons: 15

Title: The use of modern telemedicine technologies in an innovative program of optimal cardiac rehabilitation in patients after myocardial revascularization
RESTORE

Centre: AGH University of Science and Technology

Funds: National Centre for Research and Development

invited lectures, professional recognition

- Lecture by the invitation of the Director of National Science Center entitled "TANGO PI - best practices in research and research results commercialization", POLONEZ Fellows' Forum Krakow, 11th - 12th June 2018, Kraków
- Roundtable Experts during the IMPACT'17 conference in the Biotechnology & Digital Health session, May 31 - June 1, 2017, ICE Kraków Congress Center
- Invited lecture entitled "Telemedicine system for monitoring patients with chronic diseases - from basic research to applied research" during MedmeetsTech conference, Warsaw
- Invited lecture entitled "Application of modern ICT technologies in medicine", 2nd Intelligent Development Forum, panel Healthy Society - Health Safety of Poles (NCBR patronage), Rzeszów.
- Expert of the National Center for Research and Development for ex ante evaluation, from 3.2018 - still, I was appointed as a result of a nationwide competition announced by the NCBR Director, the team plays an advisory role in the ex ante evaluation of the assumptions of newly launched programs, projects, joint ventures, the initiator or party is the National Center for Research and Development
- Lecture invited with professor Ryszard Tadeusiewicz "Biomedical engineering - opportunities and threats", an international workshop with the Nobel laureate prof. Erwin Neher - under the patronage of the Aleksander von Humboldt, Krakow.
- Juror of the European BEST Engineering Competition in 2022

patents (granted)

- P.418874 - The method of acquisition of measurement signals, a sensor sticker and a measurement and control system.
- PL 236937 B1 Roller of a belt conveyor or a roller conveyor.

organized conferences

- 20-th Polish Conference on Biocybernetics and Biomedical Engineering 2017
- Cybernetic Modeling of Biological Systems 2010 and 2015
- Computing in Cardiology 2012
- Nationwide Biomedical Engineering Conference OKIBedu 2008 and 2011

memberships

- IEEE since 2018
- Polish Artificial Intelligence Society - since 2011
- TOP500 Innovators Association since 2011
- SIMS Association since 2013
- IEEE Engineering in Biology and Medicine Society 2013-2015 and since 2018

reviewer of papers submitted to

- IEEE Transactions of Biomedical Engineering
- IEEE Transactions of Information Technology in Biomedicine
- Computer Methods and Programs in Biomedicine (Elsevier)
- Sensors
- Electronics (MDPI)

- Journal of clinical medicine
- Metrology and Measurement Systems

reviewer of research project applications

- * National Centre for Research and Development (POIR)
- * National Science Centre (PRELUDIUM)
- * Expert appointed at the invitation of the Director of the National Science Center, consultations in Warsaw as an expert on the proposed areas for the new Norwegian Grants
- * 2013- 2016 member of the NCBR's expert Stakeholder Committee within which I gave opinions on the submitted documents, developed recommendations and proposals for improvements regarding the statutory tasks carried out by the NCBR and implementation of Operational Programs.