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## Keynote Speaker

### **“Tony Brooks’ SoundScapes – WWW/Internet, Virtual Reality, Video Games, and the Arts in Healthcare, (Re)habilitation, and Wellbeing”**

**By Dr. Anthony Brooks, Associate Professor and Senior Researcher, Aalborg University, Denmark**



(<https://www.internet-conf.org/wp-content/uploads/2022/09/Dr.-Anthony-L-Brooks.jpg>)

#### **Abstract**

*SoundScapes* is the title given to my mature applied research body of work that in fact has roots back to my being born into a family with members having profound impairment and dysfunction. As a child/teen I “invented” alternative means for overcoming problems and daily challenges for these relatives, thus, intuitively nurturing and developing a tacit/implicit knowledge that became habitual. Later, with the arrival of computers, and then arrival of the communications signal protocol MIDI, an alternative use was designed with digital multimedia controlled by invisible-sensor technologies enabling MIDI gesture-control to enable networked communication that was envisioned to benefit in healthcare, wellbeing, and (re)habilitation (thus accessible and inclusive for ‘people of determination’). Accessibility and inclusion were aligned with the targeting of a means of benefiting all – across dysfunction/impairments/diagnosis/ages/situations ... Using the same IT technology-based systems interactive installations exhibited at cultural institutions such as Museums of Modern Art (the first being at the Institute for Contemporary Arts – ICA – London in 1978/9) enabled observation and analysis of human performance within the created interactive environments. The bidirectional implementation meant that the use in the arts informed the healthcare work just as the healthcare use informed the art works. The original concept was tested at institutions, schools, hospitals and care homes with positive outcome and glowing reports by expert practitioner professionals in the field that led to European and national funded projects with the research central. Patents, an industry start-up, national and international research and a new university education on creativity and technology (Medialogy) resulted around the turn of the century.

The ongoing research now heads towards its “swansong” finale in that a vision is of a contribution towards advancing the field of future health/(re)hab/wellbeing e.g., HEALTH 5.0 and beyond, by positing a developing of “Probably the World’s best Rehabilitation Complex” as a “Skunk Works” physical location. This where innate to in-house invention, design, education, and practices sits easy access to secure WWW/Internet exchanges to inform and optimize rapportage (so beyond cultural differences and current hierarchical challenges), interventions and treatment designs that include new emergent models for computer-based systematic implementation, analysis and re-design towards optimal patient experiences and outcomes (also for the therapists/medical professionals). This complex (when/if funded and realized) is envisioned to lead and enable collaborative new ways for advancing current traditional therapeutic methods by including participant’s creative expression, entertainment, and play experiences embedded within personalized interactive environments that can be ongoingly

tailored/tuned to the individual participant. Thus, by healthcare professionals interfacing and cooperating with creators of, for example, Artificial Intelligence/ML/DL algorithms, Virtual Reality/AR/XR/Internet of Things environment experiences, Video Game experiences, and other such interactive digital arts (Music/Animations/Robotics etc.), with foci on human-centered perspectives towards realizing new paradigms of disruption to advance next-generation educations, professional practices and products – and, most important, intervention outputs beneficial for all of the involved human beings (both direct and indirect – so patient/participant; therapists/healthcare-professionals/care-worker; family/friends and others).

### Bio

Dr. Anthony Brooks (aka Tony) is Associate Professor and senior researcher at Aalborg University, Denmark. Originating from Wales in Great Britain, his educational degrees cover engineering, arts, media, design, and communication. Around the turn of the century, he was a founding leader of the Medialogy education that focused upon creativity and technology. Under Medialogy in 2004 he designed, established/funded, and directed the renowned SensoramaLab complex at Aalborg University's Esbjerg campus where the research/educational foci included Virtual Reality, Video Games, Human Interaction and Behaviour and more. The SensoramaLab hosted international researchers/conferences from around the globe and was responsible for numerous spin-out companies such that its director was (and still is) known as "Mister Medialogy". Many years prior to academia, Brooks originated and developed SoundScapes as a self-funded research vehicle for his philanthropic activities within (and across) healthcare and the arts. His first Museum for Modern Art exhibition was at the ICA in London in 1978. Amongst other credits, he was first artist-in-resident at CAVI – Centre for Advanced Visualization and Interaction. His work was even featured in The First Space Art Exhibition in Microscale (2009) onboard a Japanese satellite orbiting the earth ([http://www.astro.mech.tohoku.ac.jp/SPRITE-SAT/spaceart\\_e.html](http://www.astro.mech.tohoku.ac.jp/SPRITE-SAT/spaceart_e.html) ([http://www.astro.mech.tohoku.ac.jp/SPRITE-SAT/spaceart\\_e.html](http://www.astro.mech.tohoku.ac.jp/SPRITE-SAT/spaceart_e.html))). With his four-decade body of research positioned between science, arts, and human performance, Brooks is referred to as a third culture thinker[1] and a world leading pioneer in applying digital media in healthcare (re)habilitation and wellbeing via self-created bespoke IT-based interactive systems. Brooks was the first to use invisible sensor technologies to enable gesture-control of digital multimedia (e.g., music-making, video games playing, robotic device control, virtual reality [VR]) in healthcare, (re)habilitation, and wellbeing research and practices. His other firsts include micro-cameras within a VR Head Mounted Display able to allow real-time observation/analysis of what was viewed (via eye-tracking) and (via pupil dilation changes) the emotional responses to what was seen. His first patent is from 2000 titled "Communication method and apparatus". His research has been referred to as unique in (re)habilitation and has been awarded international and national awards and honours. A focus of his research is Virtual Information Space/Virtual Interactive Space (VIS) around which his over three decades of research have developed the SoundScapes system as a hybrid flexible modular system application that combines arrays of components (interfaces, mapping software, multimedia contents as feedback stimuli, and presentation means, to enable a mixing and matching to users' individual needs so as to best achieve desired outcomes in different therapeutic/wellbeing situations. His PhD on this subject was from the University of Sunderland. He has been steering person, organizing chair and co-chair of numerous international conferences. He is an expert reviewer for numerous international research funding foundations and has been external examiner of numerous PhDs. He has numerous international credits as visiting scholar/invited speaker. He is member of numerous international boards and committees. Brooks' SoundScapes project has been presented globally and the work is responsible for approximately 250 publications including eleven books and a three-volume Springer series on "Technologies for Inclusive Wellbeing" – see (2014 (<https://link.springer.com/book/10.1007/978-3-642-45432-5>), 2017 (<https://link.springer.com/book/10.1007/978-3-319-49879-9>), 2021 (<https://link.springer.com/book/10.1007/978-3-030-59608-8>)). Amongst Brooks' numerous credits are that he has been a coordination board member of the European Network for Intelligent Information Interfaces (i3net.org = 1996-to-2002) and since 2004 has been active working for the European Commission and other international funding organizations as project panel evaluator, rapporteur, and expert reviewer. He was also a member of the Global Education Team (GET) presenting around the world. His research has been catalyst responsible for numerous externally funded international and national projects as well as an industry start-up company, and a family of patents. Brooks has numerous keynote credits and is Danish representative for UNESCO's International Federation for Information Processing (IFIP). Under the European Alliance for Innovation (EAI) he has steered the International Conference ArtsIT [Arts & Technology, Interactivity and Game Creation] since 2009 (see <http://artsit.org>). Most recently he accepted an invitation to be in the coordination and working group of the Council of Europe (CoE) Video Games Culture (VGC) initiative under the Digital Citizen Education program.

Brooks' university profile is at – <https://vbn.aau.dk/da/persons/103302> (<https://vbn.aau.dk/da/persons/103302>)

[1] Thus elaborating and expanding upon C.P. Snow's "THE TWO CULTURES AND THE SCIENTIFIC REVOLUTION "

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