



*Wearable Soft Robotics for Independent Living*

**Newsletter December 2022**

## **We attended the International Conference on Intelligent Robots and Systems (IROS 2022) in Kyoto, Japan!**

Our FREEHAB engineering team attended the International Conference on Intelligent Robots and Systems (IROS) 2022 in Kyoto, Japan, one of the biggest Robotic conferences. We presented our wearable device, introducing a novel shrink-to-fit capability to facilitate ease in donning and doffing clothing and adaptability to fit with the wearer's body to enable body assistance. It gained great attention from audiences due to its potential to be used in the future powered robotic suit (we envision that in the future our device could be worn like clothing). Moreover, the team visited the Guardian Robot Project at Advanced Telecommunications Research Institute International in Kyoto, to discuss potential collaboration in the future. Presently we are developing our device to assist the wearer moving from sitting in a chair to standing, as well the device providing sensory feedback to encourage muscle activation. We hope to then look at a device that can facilitate the wearer's walk (we do love a challenge!).



*Picture: Freehab engineers and Soft Lab colleagues at IROS*

## **Participants wanted!**

We are recruiting participants from our clinical partner sites. We are also widening our recruitment. If you are a stroke survivor or have had a traumatic brain injury and have hemiparesis (weakness on one side), have accessed stroke/traumatic brain injury physiotherapy services (NHS or privately), and live in the Bristol/ North Somerset/ South Gloucester area, then you might be able to test our device in our study. You can find an expression of interest document on our website here <https://therighttrousers.com/2022/09/21/want-to-take-part-you-might-be-able-to/>.



## Introducing...

Every newsletter we would like to introduce you to a different member of the team. Up today: Mr Chris Priestman, our Patient Research Partner, who we are very lucky to have on our team:

"I had a serious stroke on a Saturday evening in 2014 and everything changed in an instant for me and my partner. I was a fit 57 year old, living in Bristol and lecturing in broadcasting full-time at Staffordshire University - driving home at weekends. At first the stroke left me with no movement on the right side of my body and some loss of speech. Fortunately, my sense of touch and my spatial awareness were unaffected. I retired and I have since given up driving, which is a blow. After a lot of physiotherapy, occupational and speech therapy - and plenty of my own determination - 3 months on I was able to stagger 50 yards with a stick for support and raise my right arm about 90 degrees mainly from the elbow. And in the years since then, with a daily exercise regime, swimming and gym, I have continued to see major improvements: walking for miles, albeit slowly; regaining full dexterity in my right hand and mobility of my right arm, though weak; and my speech is a lot stronger though still annoyingly far from what it was.

I first heard about The Right Trousers project back in 2018 at an event hosted by the Stroke Health Integration Team of which I was a patient representative. It sounded like a promising first step in assistive research. I was delighted to be asked to join the Freehab project formally as a research assistant the following year, lending my experiences of the stages of rehab following a debilitating stroke. Now I spend much of my time eco-gardening - something I've long held the ambition to do seriously. Since 2016, I've been involved in several other areas stroke research as a subject rep. And, for the NHS, I have been a patient representative on the Programme Board involved a major reorganisation of the way people with stroke across Bristol, South Gloucestershire and North Somerset receive the most up to date treatment. The new pathway is due for completion in 2023."

If you would like to be removed from the newsletter database, please let Leah Morris know. *The Right Trousers Team*

**Have a restful festive period, and wishing you a happy New Year! *The Right Trousers Team***

### Contact for newsletter

Dr Leah Morris

Glenside Campus, Blackberry Hill, BS16 1DD

Email: [leah.morris@uwe.ac.uk](mailto:leah.morris@uwe.ac.uk)

Find lots more info, including videos, articles and our friendly team of engineers, clinicians, and researchers on: <https://therighttrousers.com/>