



Professor Paul Vickers, Professor of Computer Science and Sonification in Northumbria's Department of Computer and Information Sciences

Aug 24, 2022 09:23 BST

## Northumbria professor named president of global auditory display organisation

A researcher from Northumbria University has been appointed president of a prestigious international institution.

[Professor Paul Vickers](#), an expert in computer science and sonification – otherwise known as the use of audio to communicate data – has taken up his new position at the [International Community for Auditory Display](#)(ICAD).

ICAD fosters fundamental research in, and helps individuals and companies to, explore practical applications of converting data into sound and communicating information via sound.

The real-world impact of these applications is wide-ranging, from helping visually impaired people to assimilate data to monitoring threats and network traffic at a security operations centre.

Appointed by the ICAD board for a three-year term, Professor Vickers will work with academics and organisations to conduct and present research on the use of sound to display and communicate data, monitor systems in real time, and improve user interaction with computers and virtual reality systems.

The research also encompasses perceptual issues related to auditory displays as well as technologies that can support the creation of these displays.

Under his leadership, the ICAD will host a variety of activities, events and conferences that will bring together a wide range of academics and organisations with an interest in this field of work, from researchers and scholars to engineers, mathematicians, psychologists, musicians and physicists.

Ultimately, the aim is to increase awareness of the use of auditory displays and to facilitate the forging of new interdisciplinary collaborations that explore the dynamics between data and sound to find practical solutions to real-world challenges.

Professor Vickers, who is a Professor of Computer Science and Sonification in Northumbria's [Department of Computer and Information Sciences](#) and was previously a board member at ICAD, said: "I'm delighted to have been elected as president of this important organisation. I'm looking to extend ICAD's network of contacts and to reach out to other people and organisations who are doing work in this multi-disciplinary and interdisciplinary field.

"The challenge is to encourage different disciplines to collaborate on common problems so we can co-inform each other's research and understanding of this important area of work. The human hearing system has an amazing ability to separate and identify several sounds at once, whereas

with vision we can only look and attend to one thing at a time. This offers the potential for us to use the medium of sound to assimilate and communicate several streams of data simultaneously.

“This can generate positive impact in several ways – for example, helping visually impaired people with finding their way around and gaining knowledge of unfamiliar environments, or helping pilots to assimilate much more data and gain greater intelligence about their aircraft’s performance, environment, and possible threats in real time.”

[Professor Martyn Amos](#), Acting Head of Northumbria’s Department of Computer & Information Sciences, said: “The appointment of Professor Vickers as president of ICAD is well-deserved international recognition for his expertise in the fields of computer science and sonification.

“These are areas of top-quality research here at Northumbria and we look forward to helping ICAD and its partners explore the synergies between data, sound and computer science to tackle key societal challenges.”

Professor Vickers has worked at Northumbria’s Department of Computer & Information Sciences for more than 20 years and specialises in a range of areas including sonification and auditory display, network security, cyber security and situational awareness, and computing and music.

He is currently working on a three-year project to develop a fundamental understanding of the relationship between sonification design and the listener, and to create a revitalised agenda for sonification research and practice. Ultimately, the aim is to formulate a new framework for successful sonification design which, in turn, has the potential to help sonification become more widely used in practical situations.

Professor Vickers said: “If you look around the world at sonification clusters, there aren’t that many. Most sonification work tends to be carried out by individuals working in silo at various universities. Eventually I’d like to create a sonification hub at Northumbria, and in the city of Newcastle, by collaborating and sharing research with other key partners in this field.”

Northumbria is renowned for its outstanding research in computer sciences and informatics, which was [ranked 12th in the UK](#) for research power in the

Research Excellence Framework (REF2021). Almost all of Northumbria's research in this area was rated world-leading or internationally excellent.

The University also hosts a multi-disciplinary group, [Northumbria Social Computing](#) (NorSC), which represents and disseminates emerging work in the human-centred aspects of computer science, including human-computer interaction (HCI), digital living and social informatics.

Members of this group are interested in critically understanding the role and implications that computer science has in delivering future socio-digital systems and supporting future digital lives. They have collaborated on projects worth more than £6m and their work has been funded by [Innovate UK](#), the [Defence Science and Technology Laboratory](#), national research councils and several UK companies.

---

Northumbria is a research-intensive modern university with a global reputation for academic excellence. Find out more about us at [www.northumbria.ac.uk](http://www.northumbria.ac.uk) --- Please contact our Media and Communications team at [media.communications@northumbria.ac.uk](mailto:media.communications@northumbria.ac.uk) with any media enquiries or interview requests ---

## Contacts



### **Rik Kendall**

Press Contact

PR and Media Manager

Business and Law / Arts, Design & Social Sciences

[rik.kendall@northumbria.ac.uk](mailto:rik.kendall@northumbria.ac.uk)

07923 382339



**Andrea Slowey**

Press Contact

PR and Media Manager

Engineering and Environment / Health and Life Sciences

[andrea.slowey@northumbria.ac.uk](mailto:andrea.slowey@northumbria.ac.uk)

07708 509436



**Rachael Barwick**

Press Contact

PR and Media Manager

[rachael.barwick@northumbria.ac.uk](mailto:rachael.barwick@northumbria.ac.uk)

07377422415



**James Fox**

Press Contact

Student Communications Manager

[james2.fox@northumbria.ac.uk](mailto:james2.fox@northumbria.ac.uk)



**Kelly Elliott**

Press Contact

PR and Media Officer

[kelly2.elliott@northumbria.ac.uk](mailto:kelly2.elliott@northumbria.ac.uk)



**Gemma Brown**

Press Contact

PR and Media Officer

[gemma6.brown@northumbria.ac.uk](mailto:gemma6.brown@northumbria.ac.uk)