Royal Academy of Engineering

**Sunil Bhopal, Academic Paediatrician, Newcastle University**
*Championing early childhood development*

Sunil Bhopal is a passionate paediatrician and population-health scientist working on childhood stress, adversity and development around the globe. He believes that researchers need to engage more strongly with ethical issues linked to rapidly emerging technologies in childhood development.

**The challenge**
New technologies continue to transform many aspects of our lives – including in childcare and childhood education. However, these technologies have nearly all been developed by, and for, adults, with commercial requirements at the heart of their design. Millions of children around the world interact daily with AI-powered technologies within their homes. However, there is minimal regulatory oversight or consideration of their use by developing children, and little discussion in health, education, and academic spheres to date.

Sunil and his colleagues, Robert Hughes and Al Van Heerden, wrote an article on 'hacking childhood' in 2021 that included a call to action for academics and health professionals to shape childhood AI technologies early. The aim is to avoid the need to constantly 'catch-up' with industry. Sunil and his colleagues believe that "this is all too important to be left to 'big tech' and early adopters. We need to encourage more people to join this conversation, otherwise we risk a future without informed debate, which would only lead to greater inequality across society as a whole".

**The ambition**
Sunil's vision is that the best emerging technology will be merged with the best of humanity to provide the best start in life for all children across the globe.

As technology's impact on early childhood development is so complex, Sunil believes that no single discipline holds all the answers. He and his colleagues will convene experts across psychology, public health, ethics, child protection, AI, electrical engineering and user design. Parents, caregivers, children, and healthcare professionals will also participate in this series of engaging meetings in the UK and South Africa.

Sunil hopes that bringing together this group of stakeholders, who are rarely able to collaborate on a large scale, will shift the dialogue away from a commercial lens to a child-centric approach, focusing on health and ethical issues.

The meetings will inform the beginning of an ethical framework outlining optimal digital development for early childhood and a series of use cases. Sunil hopes that building a community of practice in this manner will help this important area of research to attract more funding.

Sunil sees his Frontiers Champions project as a steppingstone to comprehensive research and testing of technological development on a bigger scale.

**Relevant UN Sustainable Development Goals (SDGs)**

- Quality education (SDG 4)
- Reduced inequalities (SDG 10)
- Good health and wellbeing (SDG 3)

**Involvement with the Royal Academy of Engineering**

Sunil first became involved with the Academy after attending a Frontiers symposium in 2019. He was initially invited because of his work in researching biomarkers of early life stress in babies. After receiving two successful Frontiers seed funding grants, Sunil decided to apply for Frontiers Champions in 2021.

To prospective applicants, Sunil says, “I think people should give it a go. It’s a special programme that is prepared to take innovative thinking and support it in an interdisciplinary way.”