

2023 Royal Society of New South Wales and Learned Academies Forum: “Our 21st Century Brain”

Welcome and acknowledgements

Susan Pond

President, Royal Society of New South Wales

As President of the Royal Society of New South Wales and Chair of the Forum Planning Committee, I am delighted to add my welcome to Her Excellency's and thank her for hosting our annual Forum that has been held in Government House since 2015. Her Excellency has already given us a lot to think about in speaking of “our” brain.

The Forum is presented by the Society in partnership with the Australia's five national Learned Academies — Health and Medical Sciences, Humanities, Social Sciences, Science, and Technology and Engineering. Such synergistic partnerships catalyse the extraordinary dialogue and creativity we need to generate the breakthrough ideas that will shape our future. It is only by examining complex topics from the perspective of the sciences and the humanities that we can make progress.

I thank the Academies and the Office of the New South Wales Chief Scientist and Engineer for their continued engagement with the Society. First four and more recently five Academies have been lockstep with the Forum every year. I thank each of them for their sponsorship to make live-streaming and recording of the day's proceedings possible. I thank Haus Holdings, led by Fellow of the Society, Medy Hassan, for its additional sponsorship this year.

The videos ensure that we reach a much wider audience in real time today and later via the Society's YouTube channel. I encour-

age all of you, here in person in Government House, or online to join the discussion during the day using the hashtag #21stCenturyBrain and tagging @RoyalSocNSW.

I encourage those of you here in person to meet the 15 university students who are attending from across NSW and the ACT. They are the ones who will take the ideas and actions that we generate today well into the future.

The brain underpins our basic instincts and needs, and behavioural responses to the world around us. It mediates our compassion, reason, and imagination that are reflected in great works of the arts and sciences. Yet our brain is also the source of distress, dysfunction, and malice. Despite centuries of recurring impacts of tribalism, racism, dehumanisation, and exclusion of “outsiders,” we continue to inflict suffering on others.

At the same time, the 21st century brings new challenges that extend well beyond immediate threats to very complex societal challenges such as global security, climate change, massive demographic shifts, resource management, information overload, and artificial intelligence.

The context and demands on our brains have been transformed by the very tools we have created, including new information technology platforms, and rapidly developing and deployed forms of artificial intelligence. Diseases of the brain are increasingly prevalent in our ageing popu-

lation, as are the increasing mental health challenges that are evident across the human lifespan.

Considerable progress across the sciences and humanities has deepened our understanding of genetic, environmental, and social factors that underpin brain development and function. Rising demands on our capacity to respond appropriately to globalised threats bring an urgent need to apply our scientific understanding to the development of just and sustainable solutions.

This year's Royal Society of New South Wales and Learned Academies Forum focusses on recent progress in unravelling the workings of the brain and opportunities to use our emerging understanding to promote human wellbeing well beyond the 21st century.

Today, we are addressing two questions. "Have we reached the edge of our human capacity to respond effectively as either individuals or collective groups? Or will our awesome brain power enable us to navigate our way through?" My vote is for the latter.

We cannot achieve the lofty goal of answering these questions in a single day. But we can make a great start through our impressive line-up of speakers. They have been chosen carefully by the Forum's Program Committee with its co-chairs Professor Ian Hickie and Emeritus Professor Pip Pattison, and representatives of each of the five Academies. I take this opportunity to thank all Program Committee members for being so generous with their time and expertise.

I acknowledge and thank our Webmaster Lindsay Botten, who is responsible for all AV/IT, wrangling the final in-person guest

list, posting information about the Forum on the Society's website and in our Bulletin and so much more. I thank the Society's new communications officer, Amanda Yeo, who is directing traffic on social media sites and to the media. Amanda is in the audience today. I thank Hans Coster, Secretary of the Planning Committee.

I thank Robert Marks, Editor of the Society's *Journal and Proceedings*, who will be producing an enduring legacy of the Forum in the form of written Proceedings that will be published in the Journal in June 2024. Just imagine a person reading the Journal in 100 years' time gaining an insight into our thinking today.

To launch us into the Program, please welcome George Paxinos AO, a Distinguished Fellow of the Society and member of the Program Committee representing the Australian Academy of Science as one of its Fellows. His bio is extensive. But here are a few highlights. He has identified 94 hitherto unknown regions in the brain of rats and humans and published 57 books on the brain and spinal cord of humans and experimental animals — thus far. His first book, *The Rat Brain in Stereotaxic Coordinates*, is the most cited work in neuroscience. His *Atlas of the Human Brain* received the American Association of Publishers Award for Excellence in Publishing in Medical Science and the British Medical Association Illustrated Book Award. In 2023, George published *A River Divided*, a novel with environmental issues at its core, including the question of whether the brain is the right "size" for survival.

George, welcome to the stage.