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## COVER PHOTOGRAPHS

Johnny Dawson, Gunditjmara, 'Cavalryman and family with a crowd in the background' [Circus audience and performer], ink and watercolour on paper, 25 x 41 cm. SMB,EM VI 2585a. Gifted by Eugene von Guérard. Image courtesy of Staatliche Museen zu Berlin, Ethnologisches Museum. (See page 106.)

Watercolour of Royal Society of Victoria building. Tony Broughton 2009.

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The Society invites original research articles, reviews and short communications for the *Proceedings*, from authors across the various disciplines of biological, physical and earth sciences, including multidisciplinary research, and on issues concerning technology and the applied sciences. Contributions on topics that are relevant to Victoria and the south-eastern Australian region are particularly encouraged. All contributions are subject to peer review and there are no page or colour charges involved.

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# HUMBOLDT SYMPOSIUM PAPERS

## FOREWORD

Alexander von Humboldt has been referred to as ‘the forgotten father of environmentalism’<sup>1</sup>. As early as 1844, he wrote that humans change the climate ‘by cutting down forests, by changing the distribution of water bodies, and through the production of large vapor and gas masses at the centers of industry’<sup>2</sup>. Humboldt also described the greenhouse effect in his *opus magnum*, ‘Kosmos’. And time and again in his writings and in his lectures, he emphasised the interconnectedness of all living creatures on this planet. In times when the effects of climate change become ever more visible and palpable around the globe, it is imperative that the global academic community addresses the topic of sustainability in all its dimensions.

Sustainability is in many ways an integral part of the Alexander von Humboldt Foundation’s work. Our mission is to create sustainable and long-lasting connections between researchers from Germany and the rest of the world. Even in today’s increasingly digitalised world, personal encounters are still an indispensable element in this endeavour because they facilitate mutual trust-building and cooperation. International cooperation built on trust, in turn, is essential for addressing the grand challenges the world is facing — sustainability being perhaps foremost among them.

Against this background, I am glad and grateful that the 19th Biennial Conference of the Australian and New Zealand Associations of von Humboldt Fellows chose the topic of ‘Humboldtian Research towards a Sustainable World’. In a truly Humboldtian spirit, the Conference convened researchers from many different disciplines under one roof, ranging from physics to food science, from chemistry to law and health care. It was a delight to listen to all these excellent contributions.

I was impressed by the extraordinarily welcoming atmosphere at the Conference and the constructive tone in the discussions. It was heartening to see the great team spirit among Humboldtians from Australia, New Zealand and Germany — a Humboldt family that combines a strong internal cohesion on the basis of shared values with a warm-hearted openness towards newcomers. I am deeply grateful for many enriching conversations.

I am convinced that the 19th Biennial Conference of the Australian and New Zealand von Humboldt Fellows made an important contribution towards strengthening the bonds between research communities in Australia, New Zealand and Germany.

Dr Thomas Hesse  
Deputy Secretary, Alexander von Humboldt Foundation

1 Andrea Wulf, ‘The Forgotten Father of Environmentalism’ in *The Atlantic*, 23 December 2015 (<https://www.theatlantic.com/science/archive/2015/12/the-forgotten-father-of-environmentalism/421434/>).

2 ‘durch Fällen der Wälder, durch Veränderung in der Vertheilung der Gewässer und durch die Entwicklung großer Dampf- und Gasmassen an den Mittelpunkten der Industrie’ quoted in Frank Holl (2018), *Alexander von Humboldt und der Klimawandel: Mythen und Fakten HiN XIX*, 37.