

Preface

Rarely a week passes without announcements that artificial intelligence (AI) has achieved new capabilities. Since the arrival of generative AI, ChatGPT and subsequent large language models – after many of the contributions to this book were written – discussion of AI's proliferating uses and their implications is increasingly visible in mainstream media. The economic, business, labour market and societal ramifications of AI now occupy the attention of firms, professional bodies, governmental and non-governmental organisations. Indeed, most governments in OECD countries have national AI strategies.

Amid these developments, and except for specialised journals, less consideration has been given to the role of AI in research. This may be inevitable, as science is a specialised field. However, raising the productivity of research may be the most valuable of all the uses of AI. Being able to discover more scientific knowledge, helping science become more efficient, and doing this more quickly, will strengthen the foundations critical to addressing global challenges. Applying AI to research could be as transformative as the rise of systematised and institutionalised research and development in the post-war era. Preparing for new contagions, generating technologies that elevate living standards, countering the diseases of ageing, producing clean energy, creating environmentally benign materials, and other overarching goals, all require technologies and innovations that emerge from science.

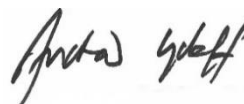
In this context, it gives us great pleasure to present this publication, *Artificial Intelligence in Science: Challenges, Opportunities and the Future of Research*. Gathering the views of leading practitioners and researchers, but written in non-technical language, this publication is addressed to a wide readership, including the public, policymakers, and stakeholders in all parts of science. Among other topics examined are: AI's current, emerging and possible future uses in science, including a number of rarely discussed applications; where progress in AI is needed to better serve science; changes in the productivity of science; and, measures to expedite the uptake of AI in developing-country research.

A distinctive contribution is the book's examination of policies for AI in science. Policymakers and actors across research systems can do much to maximise the society-wide benefits of AI in science, deepening AI's use in science, while also addressing the fast-changing implications of AI for research governance.

This publication is the fruit of a collaboration between our two organisations. The OECD's Directorate for Science, Technology and Innovation undertook the substantive work, under the aegis of its Committee for Scientific and Technological Policy. The publication and the wider project of which it is a part have been made possible thanks to financial and other support from the Fondation IPSEN (<https://www.ipsen.com/our-company/ipsen-foundation/>), which works to improve living conditions by disseminating scientific knowledge to the public and promoting exchanges within the scientific community.



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