Activities Report
May 2021 – April 2022
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1. **FOREWORD**

**Dear reader,**

It gives me great pleasure to address you in this traditional year-in-review format ahead of the upcoming General Assembly 2022 in Brussels. For us at ALLEA, it is an opportunity to critically revisit our work during the past year and share the most notable highlights with the member academies, our partners, and followers.

As we know, the past two years were marked by sweeping change, as countries and peoples adopted new strategies to adjust to the reality of living with Covid-19. In a world still in the grips of an evolving pandemic, uncertainty and risks continue to shape our everyday agendas. To make sense of such circumstances, oftentimes our human nature prompts us to develop methods that are meant to help us respond adequately to crises. In this context, ALLEA currently leads the Strategic Crisis Management in the EU activity of the Science Advice for Policy by European Academies (SAPEA) project: by delivering scientific advice on how European societies can effectively anticipate, prevent, and respond to major threats and crises, we seek to provide a pertinent evidence base to inform future policies and strategies of the overarching EU crisis management framework.

More recently, we are now witnessing an unfolding tragedy – the Russian invasion in Ukraine has shattered peace in Europe by provoking the fastest growing humanitarian crisis since World War II. In the recently issued statements by the ALLEA Presidency and Board respectively, we strongly condemned this senseless war and expressed our full solidarity with Ukraine as a country, with its citizens, and with the members of its scientific community. In addition, we announced measures that were taken to this effect. As ALLEA remains committed to science diplomacy, we consider that it is important, and morally mandatory, to distinguish between institutions and individual researchers in the countries involved.

In addition to our statements, ALLEA has partnered with the Breakthrough Prize Foundation to support scholars and scientific institutions impacted by the war in Ukraine. The “European Fund for Displaced Scientists”, endowed with $1.5 million, is set to launch this spring. You can read more about this important new line of activities further below. Through this fund, ALLEA reinforces, in practice, the ideal of fostering scientific collaboration across borders, and beyond geopolitics.

Amid these many competing crises, ALLEA has continued to devote attention and resources, to climate change, one of the biggest challenges of our times. While being mindful of the carbon footprint caused by different sectors, we chose to focus on how the academic system could be transformed to become climate sustainable. The project, initiated by ALLEA’s member Junge Akademie, intends to offer suggestions for the academic community to pursue a viable metamorphosis without compromising on international collaboration and research excellence. The forthcoming report will showcase the sustainability efforts of key stakeholders, best practices in place, and a set of tailored recommendations, and will be presented and discussed at the upcoming General Assembly.

Another noteworthy activity in 2021 linked to the topic of climate change was 2021 laureate Professor Helen Keller’s remarkable Madame de Staël Prize Lecture. The lecture offered a legal perspective on
dealing with climate change in courts and insights into the effects of climate change on individuals, different population groups, or associations increasingly brought before courts.

Finally, our key event of the year, the General Assembly, is just a few weeks away. This time, at last in physical presence, it will take us to Belgium and offer an opportunity to finally meet again. We have an impressive line-up of speakers and panelists, who will offer you an intellectual journey on Transforming Science: Pathways Towards Sustainability and Trustworthiness. Confirmed keynotes include Mariya Gabriel, EU Commissioner for Innovation, Research, Culture, Education and Youth and Maria Leptin, President of the European Research Council, among others. Join us on 11–12 May 2022 at the Academy Palace in the heart of the Belgian capital.

I look forward to seeing you soon. In the meantime, take a glimpse at the following pages and enjoy the reading.

Kind regards,

Antonio Loprieno
ALLEA President
2. STRATEGY AND GOVERNANCE

2.1 IMPLEMENTING ALLEA’S STRATEGIC OBJECTIVES IN TIMES OF MULTIPLE CRISSES

ALLEA’s mission and strategy underscore the federation’s role as a platform for scientific cooperation across borders, disciplines, and generations, as an established and renowned independent partner and adviser in the international science-policy landscape, as a protector of academic freedom, and promoter of trustworthy and open science, good research practice, and a healthy research culture.

During its meetings, the ALLEA Board regularly discusses the progress of implementing the ALLEA Strategic Priorities 2019–2024, adopted by the General Assembly in 2019. More than two years following their ratification, the Board members reaffirmed that the priorities remain relevant and applicable to guide the work of the institution in the years to come.

While reiterating their validity and ALLEA’s commitment to further pursue the strategic objectives over the coming years (see section 2.2), in light of today’s multiple and complex crises, it was decided to dedicate immediate attention and resources to three defining developments: the Covid-19 pandemic, the war in Ukraine, and the climate emergency. The sections below summarise key activities undertaken by ALLEA in response to these exigencies.

Covid-19 pandemic

The ongoing Covid-19 pandemic has dramatically exposed how an initially local and sectoral (medical) situation can rapidly escalate into a global and trans-sectoral crisis. Over the past two years, the pandemic has affected virtually all aspects of our lives, ranging from medical to economic, reinforcing inequalities, and contributing to societal and political polarisation. In order to respond to these developments, several ongoing ALLEA projects have reoriented or expanded their scope:

- Timely sharing of medical research findings has proven crucial for understanding the virus, informing policy decisions and the rapid development of tests and vaccines. The “International Sharing of Personal Health Data for Research” report by ALLEA, the European Academies' Science Advisory Council (EASAC), and the Federation of European Academies of Medicine (FEAM) provides lessons learnt from the pandemic and places them in a broader discussion on the need to resolve current barriers in sharing medical data globally (see section 4.4).
- Although the pandemic has reached all parts of society, the most vulnerable groups have been affected more severely, and experience a greater risk to their physical, mental, social, and economic well-being. The joint ALLEA/FEAM report “Health Inequalities Research: New methods, better insights?” evaluate scientific methods to study such health inequalities with the aim of helping to narrow the health gap across Europe (see section 4.3).
- The Covid-19 pandemic and the accompanying ‘infodemic’, as described by the World Health Organization (WHO), have placed science disinformation at the centre of global debates.
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• ALLEA Discussion Paper “Fact or Fake? Tackling Science Disinformation” published in May 2021, dives into the roots and consequences of this phenomenon, and provides practical solutions (see section 5.2).

• The EU-funded PERITIA project investigates public trust in expertise in a world that is becoming increasingly digital and inter-connected. In this context, the project has examined the role of social media dynamics in the public exchange of pandemic information between scientists (experts), government (policymakers), mass media (journalists), and citizens (non-experts) (see section 5.1).

• The inter-connectedness of our world and the different sectors make it extremely challenging to adequately prepare for and respond to an unfolding crisis. ALLEA is leading the preparation of the Science Advice for Policy by European Academies (SAPEA) evidence review report on “Strategic Crisis Management in the European Union”, which aims to structurally rethink the mechanisms in place (see section 4.1).

Our member academies play a key role in finding solutions to the problems created by Covid-19 by providing their expertise not only in the medical and epidemiological sciences, but also on the social and economic effects of the pandemic. ALLEA has compiled a selection of these resources on a dedicated webpage titled, “Tackling Covid-19”.

The Covid-19 pandemic provides a striking example of the challenges we encounter when continuously evolving knowledge on complex problems is used to inform policy decisions in times of crisis. These experiences will be discussed at the ALLEA/ Royal Academy of Sciences, Letters and Fine Arts of Belgium (ARB)/ Royal Flemish Academy of Belgium for Science and the Arts (KVAB) Symposium “Transforming Science – Pathways Towards Sustainability and Trustworthiness”, both during the opening keynote by Prof Marion Koopmans (Director of the WHO Collaborating Centre for Emerging Infectious Diseases at Erasmus MC, Rotterdam), as well as a multi-disciplinary panel of renowned scientists and policy advisers.

**War in Ukraine**

The unjustified and brutal Russian invasion of Ukraine has shocked us all. To express our deepest concerns and condemnation, the ALLEA Presidency released a “Statement in Support of Ukraine, its Citizens and Academics” on 25 February 2022. The statement called on the Russian government to respect the international conventions on the protection of civilians and cultural artefacts, and expresses ALLEA’s full solidarity with and support for our Ukrainian member, the National Academy of Sciences of Ukraine.

In a second statement, released on 4 March, the ALLEA Board restated the European Academies’ commitment to academic freedom and human rights. Conscious of its duty to uphold these fundamental values and giving practical expression to the moral outrage of the academic community, the ALLEA Board explained its decision to suspend the Russian Academy of Sciences and the National Academy of Sciences of Belarus, in line with international sanctions against institutions in the two states.

The Board was aware that this step might have an unintended impact on individual scientists and international scientific collaboration, but it concluded that the ability of these academies to act autonomously and independently from their governments had come into question – and therefore warranted this decision targeting only the institutional level. This suspension will be reconsidered by ALLEA member academies in the upcoming General Assembly on 11 May 2022.

To turn expressions of solidarity and support for Ukrainian scholars into action, ALLEA is partnering with the Breakthrough Prize Foundation to support scholars and scientific institutions impacted by the war in Ukraine. The “European Fund for Displaced Scientists”, endowed with $1.5 million, is set to launch this spring and has two main aims. The first is to provide immediate assistance for scholars who have already left or will soon leave the country so that they can continue their research in a safe environment. The second objective is to facilitate support to Ukrainian institutions to continue their operations, rebuild their research networks, and foster the return of scientists to Ukraine after the
war. ALLEA will launch a Europe-wide call for applications and work with its more than 50 member academies to widely disseminate it throughout the European research community.

The European scientific community, including European academies, universities, funding agencies, and individuals, have mobilised their resources to support Ukrainian scholars who have been forced to flee their country due to the Russian invasion. The platform #ScienceForUkraine is centralising information on grants, fellowships, remote working, training, and many other initiatives to support Ukraine researchers and students. You can read more about support schemes and statements by European academies and ALLEA partners on the ALLEA portal Support for Ukraine.

Climate change

With the above two immediate crises strongly dominating the news and our attention over the past months and years, we are at risk of pushing another existential threat to the background. Climate change is often referred to as the ‘defining crisis of our time’, and the recent IPCC reports have been increasingly alarming and show that our failure to act coherently has already begun dramatically affecting the liveability of our planet. Various ongoing and novel ALLEA activities aim at increasing societal and political awareness and promoting action before crucial tipping points are reached.

Our economy still predominantly relies on fossil fuels, and many wish to see Europe’s recovery from the pandemic and the war in Ukraine as further incentives for moving towards more sustainable energy sources. The SAPEA report “A systemic approach to the energy transition in Europe”, published in July 2021, explains that this transition is not just a technical challenge, but requires us to solve a systemic problem, coordinating countless individual voluntary decisions on investment, consumption, and behaviour across Europe (see section 4.1).

The summer of 2021 has provided a glimpse of the weather extremes we may expect in the future, including floods in Germany and Belgium and temperature records, droughts, and unprecedented wildfires in southern Europe. Farmers are experiencing climate change first-hand and are in desperate need of solutions to mitigate its effects. Together with think-tank Re-Imagine Europa (RIE), ALLEA is participating in a task force on sustainable agriculture, which aims to promote dialogue between the various stakeholders and provide technology-based solutions that align with the objectives set out in the European Green Deal (see section 4.2).

On 6 November 2021, ALLEA celebrated its annual Madame de Staël Prize Lecture, which was awarded to Professor Helen Keller for her outstanding work as a legal academic, lawyer, and judge at the European Court for Human Rights (ECHR). In her lecture, entitled ‘Climate Change in Human Rights Courts: Overcoming Procedural Hurdles in Transboundary Environmental Cases’, Prof Keller touched upon the rising number of environmental cases brought before domestic and international human
rights bodies, and how courts can overcome the admissibility hurdles that currently prevent such cases from receiving full consideration on their merits (see section 5.3). The lecture took place in the context of Berlin Science Week, which also featured the PERITIA lecture “Why is Climate Action So Hard?” by Philosopher of Science Philip Kitcher and the SAPEA event “Time travel and climate: changing the past to fix the future”.

The developing climate crisis also requires us to reflect on our own behaviour and to explore ways for the academic system to become carbon neutral. Led by its member Die Junge Akademie (German Young Academy), ALLEA is publishing the report “Climate Sustainability in Academia” in spring 2022 (see section 3.8). One of the main sessions of the ALLEA/ARB/KVAB Symposium, “Transforming Science – Pathways Towards Sustainability and Trustworthiness”, will present key conclusions from the report, followed by a discussion of best practices for moving towards climate sustainable science.

2.2 KEY ACTIVITIES TO IMPLEMENT ALLEA’S STRATEGIC PRIORITIES

The following is a brief overview of key activities that contributed to implementing the core strategic priorities of ALLEA. For a more detailed description of ALLEA’s various activities and outputs in specific areas, please refer to sections 3–6.

Serving academies and facilitating cooperation

- With the generous support of our host, the Council of Finnish Academies, the hybrid symposium ‘Across Boundaries in Sciences’ (May 2021) discussed how the boundaries of science have been increasingly pushed and pulled during the Covid-19 pandemic, shaking our understanding of science not only within the scientific system, but in relation to politics and society in general. The 2021 business meeting brought academy delegates together in a virtual format. The assembly re-elected Prof Antonio Loprieno as ALLEA President.
- To facilitate participation, reduce travel, and promote inclusivity, many ALLEA events are now being organised in a hybrid format. Noteworthy examples include the Madame de Staël Prize Lecture (November 2021), the Future of Science Communication Conference 2.0 (April 2022), and the Symposium “Transforming Science” (May 2022).
- European scientific cooperation should not be limited to EU member states. To promote the association of the United Kingdom (UK) and Switzerland to Horizon Europe, ALLEA has co-signed an Open Letter from the European Research Community and joined the Stick to Science movement.

Improving framework conditions for science and research

- A new ALLEA Working Group on the European Research Area (WG ERA), under the chairpersonship of Professor Kerstin Sahlin of the Royal Swedish Academy of Sciences, has been founded to engage with European institutions, particularly the European Commission, and collaborate with like-minded umbrella organisations from the European research and innovation landscape (see section 3.1).
- The Symposium “Transforming Science”, as part of the 2022 General Assembly, will host a high-level discussion panel on “transforming research cultures”. The session will explore how we can improve the trustworthiness of our research cultures by transforming how we publish, assess research careers, and set our standards for research integrity.
- The ALLEA Open Science Task Force and Permanent Working Group Intellectual Property Rights (PWG IPR) have published several statements during the past year that facilitate the transition to Open Science practices, and thereby promote science as a global public good that is as open as possible and as closed as necessary (see sections 3.5 and 3.6).
Providing independent scientific advice to policymakers and society

- ALLEA continues to play a defining role in the EU-funded SAPEA project and is currently leading on the topic “Strategic Crisis Management in the EU” to address a question raised by European Commissioners to the Scientific Advice Mechanism: Based on a broad and multidisciplinary understanding, how can the EU improve its strategic crisis management? (see section 4.1)
- On 27–28 April 2022, SAPEA is organising the hybrid conference “Science Advice under Pressure”, where international speakers will debate the changing role of science in policymaking.
- Last year also saw the publication of reports on “International Sharing of Personal Health Data for Research”, together with EASAC and FEAM, (see section 4.4) and “Health Inequalities Research: New methods, better insights?”, together with the Royal Netherlands Academy of Arts and Sciences (KNAW) and FEAM, (see section 4.3), both providing important recommendations on how to improve the European medical system.

Facilitating good research practice

- The ALLEA European Code of Conduct for Research Integrity (ALLEA ECoC) continues to find its way into the European research ecosystem. The ALLEA ECoC addresses emerging challenges emanating from technological developments, open science, citizen science, and social media, among other areas. The European Commission recognises it as the reference document for research integrity for all EU-funded research projects and as a model for organisations and researchers across Europe (see section 3.3).
- New and emerging technologies are expected to generate new opportunities and offer a wealth of socio-economic benefits. However, in the early stages of their development, these technologies also pose a number of potential ethical challenges and societal consequences. The EU-funded TechEthos project aims to facilitate “ethics by design”, in other words, to bring ethical and social values into the design and development of technology from the very beginning of the process (see section 3.4).
- ALLEA has joined the European Commission’s core group working on reforming research assessment to develop a new vision on how we assess research careers, projects, and institutes (see section 3.2).

Defending academic freedom and trustworthy science

- The ALLEA-Scholars at Risk conference “Academic Freedom and Intellectual Dissent” (June 2021), featuring a keynote lecture by American linguist and political activist Noam Chomsky, discussed the importance of intellectual dissent and academic freedom to democratic societies (see section 5.4).
- The overall attitudes of European citizens towards science and technology are continuously evolving in response to the changing world around us and our changing values. The EU-funded PERITIA project addresses these and related issues around policy, expertise and trust and published several articles and organised numerous webinars on the topic (see section 5.1).
In addition to our work to support the academic community in Ukraine, ALLEA endorsed a statement by Scholars at Risk Europe calling on European Governments and EU Institutions to help scholars, researchers, and civil society organisations in Afghanistan.

Strengthening diversity and inclusivity

- The landscape of European National Young Academies (ENYAs) is rapidly evolving, with new alliances for connecting young scientists and scholars being established and expanded throughout Europe. ALLEA welcomes these developments and is looking forward to further intensify our collaboration during the 2022 General Assembly.
- The project “Climate Sustainability in the Academic System” provides the first example of a working group initiated and led by a national young academy, Die Junge Akademie (German Young Academy). Its concluding report is expected to be rolled out in spring 2022 (see section 3.8).
- On the occasion of the 2022 International Day of Women and Girls in Science, the ALLEA Digital Salon featured interviews with two generations of female scientists, Jocelyn Bell Burnell (Royal Society, Royal Society of Edinburgh) and Valerie Domcke (Die Junge Akademie).
- How does the younger generation think about trust and scientific expertise? In collaboration with the Irish Young Philosophers Awards, PERITIA is organising a special Youth on Trust Awards in 2022 (see section 5.1).

Thinking and acting globally

- ALLEA continues to work with international scientific organisations to improve the conditions for researchers and to facilitate good research practise. Noteworthy examples include collaborations with the International Science Council (ISC) and UNESCO on Open Science (see section 3.5), and with the Global Young Academy (GYA) on reforming research assessment (see section 3.2) in the context of a strategic partnership between the two organisations.
- In December 2021, the United Nations General Assembly proclaimed 2022 as the “International Year of Basic Sciences for Sustainable Development”, to underline the high value for humankind of basic sciences and to enhance awareness of its importance to attain sustainable development and to improve the quality of life for people all over the world. ALLEA is an active supporter of the project and part of the network of international science organisations behind this initiative.
- Changes to European legislation require the broadest possible vision, taking into account the global context of our society. ALLEA's science advice activities therefore continue to search for best practice examples in other countries (for example, see the event on “Genome Editing Beyond the EU: A Global Conversation”, section 4.2) and provide recommendations to harmonise our legislation to create an international framework for conducting research (for example, see the report on “International Transfer of Health Data for Research”, section 4.4).
- ALLEA joined InsSciDE’s third conference on Science Diplomacy, held on 22–24 March 2022, at the premises of the Lisbon Academy of Sciences and the Universidade Nova de Lisboa. The conference focused on the Global South and explored critical themes in Europe’s relationships to the many emergent poles of scientific expertise and influence. Different perspectives were elicited on how a new vision and practice of science diplomacy may be integral to bridging the Global North and South interests and contribute to finding common, albeit diverse, solutions.
2.3 STEERING AND FORESIGHT: ALLEA BOARD AND PRESIDENCY

Following the re-election of Antonio Loprieno as ALLEA President at the 2021 General Assembly for the second term, the Board appointed Annette Gruters-Kieslich and Luke Drury as Vice Presidents to serve out the term concurrent with that of the President. At present, the Board of ALLEA is constituted as follows:

The role of the ALLEA Board has become ever more central to the activities of the network. In their capacity as Board members, not only do they steer ALLEA’s strategic direction, but also closely follow and guide the day-to-day business of the working groups, task forces, projects, and partnerships. In addition to their function as liaisons, Board members represent ALLEA at high-level committees and international bodies.

Some pertinent examples of the Board’s activities in the past year include the participation of Maarten Prak at the first annual conference of the Observatory on History Teaching in Europe hosted by the Council of Europe in December 2021, as well as Ylva Engström and Pere Puigdomènech serving the International Advisory Committee International Year of Basic Sciences for Development under the auspices of UNESCO, among others. In a similar vein, the ALLEA President was elected as Chair of the SAPEA Board, which is formed by a consortium of academy networks. The role of Antonio Loprieno has been instrumental especially during the transition phase of the project from the EU’s Horizon
2020 to the Horizon Europe framework programme. To act as alternate to the ALLEA President, Pawel Rowinski was assigned to SAPEA on behalf of the ALLEA Board.

Further to this, the Board, together with ALLEA senior staff, has amplified cooperation with relevant stakeholders. These include ongoing talks with young academies as ALLEA remains interested in an inclusive approach towards early-career researchers. In addition, ALLEA remains committed to existing partnerships with the European University Association (EUA) and Science Europe.

During the past 12 months, Board members met regularly to report about ongoing activities of the federation and address issues at stake. While most meetings were held online, the Board convened a two-day hybrid meeting in October 2021 at the invitation of the Austrian Academy of Sciences in Vienna. It was the first meeting of this Board to be held largely in person as it has been operating in line with public health and travel restrictions put in place since the start of the pandemic, which coincided with the inception of the mandate of the present Board. The benefits of the hybrid setting were recognised as highly palatable in view of the strategic discussions, which also took place at this meeting. Against this backdrop, the Board expressed its gratitude to the hosting academy and its staff for facilitating a technically advanced set-up.

At the strategy retreat, Board members took stock of the strategic priorities adopted for the period 2019–2024 and concluded that they remained valid, as well as applicable to ALLEA’s ongoing operations. In particular, the Board elaborated on the following topics.

**Overhaul of internal operations**

The last two years have triggered an evaluation process of internal procedures leading to a valuable transformation in different areas of ALLEA’s operations. These modernisation attempts are envisaged as a means to streamline workflows and grant additional transparency and flexibility in day-to-day business. Furthermore, these rearrangements pursue the goal of underscoring ALLEA’s current positioning on the international arena.

**Risk Management**

Following up on the encouragement of some member academies at the 2021 General Assembly, the Board has set up a risk register with due consideration of the character of ALLEA as an institution and outlining key areas of its operation and its capacities. As a living and evolving document, the risk
register offers a broad range of categories, which are rooted in areas such as governance, finance, communication, or human resources.

As such, it is set to effectively assess and address risks ALLEA may face, including categories such as likelihood and impact, but also strategies for how to respond and mitigate risks. The main narrative that was followed when creating the risk register is that there is a low-risk appetite due to the nature of ALLEA, which combines prudent financial activities, transparent procedures, and an overall inclusive and consensual approach. The risk register is considered an internal document of the Board, which will be reviewed annually.

Finance

In recent years, the demand in ALLEA's uptake of pertinent topics has grown further. On the one hand, the network has executed projects within its existing structures, e.g., through its working groups. On the other hand, due to the growing interest, several projects received instant attention resulting in follow-up initiatives, which in turn received external funding and could therefore be tackled further. Such examples include Future of Science Communication conference taking forward the pre-existing work on Future Strategies for Science Communication in Europe; PERITIA, which evolved from the working group on Truth, Trust and Expertise; TechEthos following up on the activity of the permanent working group Science & Ethics; Taskforce on Sustainable Agriculture and Innovation as continuation of the Genome-editing for Crop Improvement activity in a different framework. These projects reflect the willingness of relevant stakeholders to support activities taken forward by ALLEA in the field of common interest as they underline their perception of ALLEA as a relevant and trusted partner.

To this effect, an internal database of third-party funding was set up, which lists potential donors, their funding schemes, and topical linkages. To take informed decisions in this context, an evaluation form has been drafted, which provides a set of essential criteria to assess the risks and benefits of different funding sources. These two documents will be regularly monitored and applied accordingly should an opportunity for diversification of income emerge on the horizon.

Also, this year ALLEA transitioned towards project-oriented, i.e., global budget, which reflects the reality, in which an organisation such as ALLEA finds itself today. It emphasises ALLEA's character as an institution that has become increasingly active in the field of science policy in recent years. As such, a more focussed and purpose-driven financial plan was introduced to align the goals and missions of ALLEA with its financial framework.

Sustainability

With increased remote working and conferencing, the favourable developments as regards carbon footprint and paper waste have not gone unnoticed. For a few years, ALLEA has been offering most of its publications in a digital format making it accessible to much wider audiences. The amount of waste and printing costs have thus seen a major drop.

Similarly, hosting meetings and conferences online has allowed for greater participation of audiences making it easier and faster to communicate and exchange information. Likewise, switching to teleworking by using modern technologies has become a further step in alleviating environmental effects.

At the same time, the forthcoming report of the Working Group Climate Sustainability in the Academic System is expected to lay the groundwork for ALLEA to rethink its internal travel policies post pandemic. This way, ALLEA can make its own contribution to sustainability and hopefully incentivise many others to follow suit.
3. RESEARCH POLICY

3.1 EUROPEAN RESEARCH AREA (ERA)

The European Research Area (ERA) is a vision for a single, borderless market for research, innovation, and technology across the EU. Although the ERA has been in development since 2000, the European Commission has recently injected the ambition with a new lease of life. A new Pact for Research and Innovation and an ERA Policy Agenda intend to reaffirm and coordinate Member States’ commitment to strengthening the free circulation of researchers and knowledge, excellence, attractive careers, equal opportunities and cooperation between research and innovation actors, and to investing in research and innovation.

The ALLEA Working Group on the ERA (WG ERA) aims to contribute to the further development of the ERA, its political framework, implementation, and monitoring. The breadth of expertise and geographical representation of the group’s membership aptly reflects the heterogeneity of the ERA itself. Under the chairpersonship of Professor Kerstin Sahlin of the Royal Swedish Academy of Sciences, the WG ERA was constituted in August via a call for nominations to the ALLEA member academies over the summer of 2021. Its inaugural meeting took place virtually on 7 October 2021 and the second one took place in a hybrid form at the Royal Swedish Academy of Sciences in Stockholm on 6 April 2022, followed by a dinner at the Royal Swedish Academy of Letters, History and Antiquities.

The WG ERA’s main objective is to engage with European institutions, particularly the European Commission, and collaborate with like-minded umbrella organisations from the European research and innovation landscape, such as Science Europe or the European University Association (EUA).

One of the major activities in the past year was the participation in a series of ERA Forum workshops. The ERA Forum for Transition was launched by the Commission in February 2021. It is an informal Expert Group to provide advice and expertise to the Directorate-General Research and Innovation in relation to the preparation of the ERA governance framework. The Expert Group will help design a new ERA governance and kick-start the work for an ERA Policy Agenda. European research and innovation stakeholders are invited to participate in the discussions of the Expert Group on the basis of their expertise.

ALLEA, for example, submitted a coordinated response to the draft Pact for Research & Innovation to the European Commission on 29 April 2021. The Commission has since consolidated its draft Pact and submitted it as a Council Recommendation. ALLEA is also a part of the ongoing meetings of the ERA Forum and discusses the ERA Policy Agenda Action Points suggested by the European Commission with representatives of EU member states, associated countries, as well as stakeholders from the European research community. The WG ERA regularly collects and submits feedback on the ERA Policy Agenda Action Points for 2023–2024.
At its recent meeting in Stockholm on 6 April, the WG members welcomed the initiative for a stronger ERA and expressed their appreciation that the research community and the European Academies are actively involved in the process of drafting and reviewing new policies. In their discussions, they stressed the importance to focus on excellence, research integrity, young researchers’ mobility and career development, stopping the brain drain in some central and eastern European countries, increasing international cooperation beyond Europe, reforming research assessment and evaluation, and, last but not least, the opportunities for open science and its potentially dangerous impact on young researchers and the Social Sciences and Humanities (SSH). The outcomes of this meeting will further inform ALLEA’s feedback to the European Commission in the coming months. First results of this process in the form of policies are expected by the end of this year.

Further activities included the online participation in the European Research and Innovation Days (23–24 June), a seminar on ‘Deepening the ERA through Gender Equality’ (8–9 July), and meetings of the Initiative for Science in Europe (ISE) to form a self-organised network of European umbrella organisations to give stakeholders from the research community a joint, stronger policy voice in matters like European research funding and ERA governance.
3.2 REFORMING RESEARCH ASSESSMENT

An exponential increase in research output during the past few decades and increased competition among scholars for limited resources favoured the adoption of metrics to assess scientific merit and to determine the success of an academic career. In July 2021, ALLEA and the Global Young Academy (GYA) published a report covering the key takeaways of their webinar “Research Assessments that Promote Scholarly Progress and Reinforce the Contract with Society”. The event brought together science and policy stakeholders to rethink current research assessment models. The recording of the webinar can be found online.

In June 2021, ALLEA was part of a bilateral consultation with the European Commission on reforming research assessment, represented by ALLEA President Antonio Loprieno, Permanent Working Group Science and Ethics (PWGSE) member Deborah Oughton (Norwegian Academy of Science and Letters) and WG ERA chair Kerstin Sahlin (Royal Swedish Academy of Sciences). On 29 November 2021, the European Commission published the scoping report ‘Towards a reform of the research assessment system,’ which presents the findings from a consultation with European research stakeholders, including ALLEA, and identifies the goals that should be pursued with a reform of research assessment. The report proposes a coordinated approach based on principles and actions that could be agreed upon by a coalition of research-funding and research-performing organisations committed to implementing changes.

At the beginning of 2022, the European Commission launched the process of drafting a joint agreement on reforming research assessment for a wide variety of stakeholders throughout Europe. ALLEA joined the core group (see related ALLEA News Post) responsible for drafting the joint agreement, and is represented in the process by Deborah Oughton, with the support of the ALLEA scientific policy officer. The core group will support the drafting of an agreement led by the EUA, Science Europe, and the European Commission on key issues and timelines for implementing changes. Given the importance and broad nature of this document, additional feedback on the draft agreement is provided by members from the PWGSE, WG ERA and WG E-Humanities.

3.3 SCIENCE AND ETHICS

Ethics in science requires researchers to pay due attention to the effects on their subject groups, including animals, in order to minimise harmful effects and to put science on track to be trustworthy, reproducible, and sustainable. Research integrity touches on the ethos and conduct of science, and is guided by the rules imposed by the research community on itself. As such, research integrity aims at providing a comprehensive framework for scientists on how to carry out their work within accepted ethical frameworks as well as following good scientific practice.

ALLEA has been a long-standing voice in the fields of research ethics and research integrity via its Permanent Working Group Science and Ethics (PWGSE), chaired by Dr Maura Hiney from the Royal Irish Academy. The working group has covered a wide range of issues in
these areas concerning both ‘internal’ (within the scientific community) and ‘external’ (relations between science and society) ethics.

**European Code of Conduct for Research Integrity**

Since its publication in 2017, the revised ALLEA European Code of Conduct for Research Integrity (ALLEA ECoC) has been translated into all official EU languages, as well as Arabic, Chinese, Japanese, and Turkish, and is recognised both as the reference document for research integrity for EU-funded research projects, as well as a model for organisations and researchers across Europe and more widely.

Global and European standards for ethical and robust research continuously evolve, and the ALLEA PWGSE has taken the first steps to work towards an updated ALLEA ECoC that reflects these latest advances and expectations.

Between April and December 2021, the ECoC drafting group (a subgroup consisting of six members of the PWGSE and chaired by Krista Varantola) met virtually several times to identify and implement necessary changes to the existing ALLEA ECoC. During one of the drafting group meetings, Michael Arentoft (European Commission RTD Open Science) joined to discuss the update and place this into the context of ongoing initiatives from the European Commission, such as the upcoming agreement on reforming research assessment (see section 3.2).

A stakeholder consultation will be instrumental to inform the updating process, as well as possible outcomes from the EU-funded project on ethics in technologies (TechEthos, see section 3.4). The drafting group aims to conclude the revised document by mid-2023.

**Other news and activities**

- Pere Puigdomènech (Royal Academy of Sciences and Arts of Barcelona, Institute of Catalan Studies (Spain), and ALLEA Board member) gave a presentation at the OECD Global Science Forum workshop on 22 November 2021 on “Integrity and security in the global research ecosystem: managing conflicts of interest and conflicts of commitment”.
- Pere Puigdomènech was interviewed by the Science Shop Vienna on ethical and integrity issues in citizen science in December 2021.
- Maura Hiney organised a Panel Session in collaboration with Elsevier, at the 7th WCRI Virtual Event on 31 May to 2 June 2021, entitled “Carrot or stick? How might funders and publishers respond to new challenges for research integrity”.
- Maura Hiney gave a presentation at the Global Research Council Regional Meeting on 21 October 2021 on “Research ethics, integrity and culture in the context of rapid research results”.
- Maura Hiney represented ALLEA as an invited guest at a series of policy workshops on “Equality and Research Integrity” organised by the EU-funded Paths2Integrity project over 2021/2022.
- Krista Varantola represented ALLEA at a policy workshop on “precaution for responsible innovation”, as part of the EU-funded RECIPES project on 22–23 February 2022.
3.4 TECHETHOS

New and emerging technologies are expected to generate new opportunities and offer a wealth of socio-economic benefits. However, in the early stages of their development, these technologies also pose a number of potential ethical challenges and societal consequences. It is therefore important to ask how we can prioritise ethics and societal values in the design, development, and deployment of new and emerging technologies, particularly those with high socio-economic impact. The Horizon 2020-funded TechEthos project addresses the growing ethical challenges and expectations regarding new technologies by:

- **Scanning** the technology horizon to identify 3-4 emerging technologies carefully selected for their potential socio-economic impact on our societies and challenging ethical issues
- **Analysing** each of these technologies in terms of ethical, policy and legal implications, and societal awareness and acceptance within academia, industry, and the general public
- **Enhancing** ethical and legal frameworks and operational guidelines to support the research community in integrating ethics concerns and societal values into research protocols and technology design

In autumn 2021, TechEthos identified the three technologies families it will work on throughout the remainder of the project:

- **Climate engineering** technologies that can help mitigate climate change on a local and worldwide scale and detect and respond to global threats due to the climate crisis
- **Digital extended reality** technologies that can change how people connect with each other and their surroundings
- **Neurotechnologies** that monitor, assess, mediate, manipulate, and emulate the structure, functions and capabilities of the human brain

One of the key activities for ALLEA within TechEthos is to complement and inform a revision of the ALLEA ECoC for Research Integrity (see section 3.3). The ALLEA PWGSE closely liaises with TechEthos to ensure that (a) the proposed operational guidelines in other tasks are in line with the principles of the ALLEA ECoC, and (b) that the guidelines developed contribute to enhancing the revision of the ALLEA ECoC.

The chair of the PWGSE, Maura Hiney, sits on the TechEthos Advisory and Impact (ADIM) Board. The ADIM Board supports the project by (a) playing an active role in TechEthos’ activities, especially by helping guarantee the highest scientific standards, (b) expanding the knowledge base with insights from their domains of activity, and (c) acting as ambassadors and opening doors so that results are used widely at the national and international levels and in different fields.

ALLEA contributes to the communication and dissemination of project information through blog entries for the project website (“Spotlight on Research Ethics and Research Integrity for Sustainable Innovation” by Maura Hiney) and via the ALLEA social media channels and newsletter with the support of the ALLEA Communications Team. In 2021, this included an interview with the TechEthos project coordinator Eva Buchinger (Austrian Institution of Technology) in the ALLEA Digital Salon, titled, “How to Integrate Ethics into the Design of Disruptive Technologies”.

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3.5 OPEN SCIENCE

The Covid-19 pandemic has (once again) put the Open Science policy agenda under a magnifying glass: On the one hand, it has demonstrated the power of early sharing of research results to enable rapid understanding of the virus and the development of sensitive tests and effective vaccines. At the same time, it has exposed that we still have a long way to go to translate Open Science intentions into practice, with fundamental changes needed in all disciplines.

Since its foundation in June 2020, the ALLEA Open Science Task Force, chaired by Prof Luke Drury from the Royal Irish Academy (ALLEA Vice President), has aimed to contribute to the development, coordination, and implementation of Open Science policies and initiatives with a particular emphasis on issues relevant to the greater European area. It draws on the expertise of ALLEA's academy members in promoting science across all disciplines as a global public good that is as open as possible and as closed as necessary.

ALLEA Statement on “Equity in Open Access”

On 25 October 2021, ALLEA published the statement “Equity in Open Access” that addresses how “gold” open access publishing routes and large read-and-write deals contribute to establishing and reinforcing inequitable structures within academic research.

Widespread support for Plan S has triggered first steps in gradually disassembling the paywalls that continue to shield scientific literature from its readers. The so-called “gold” open access route (which makes articles freely available online for anyone to read) is considered an important tool towards Open Science but scientists that wish to publish via this route are often charged with substantial “article processing charges”.

Although collective read-and-write deals can be beneficial to individual researchers that are affiliated with organisations covered by such agreements, the statement highlights several important inequities resulting from these developments:

1. “[These deals] effectively incentivise such researchers to publish in the journals covered by the deal, which are often expensive journals that trade on their high ‘impact factor’ – a metric noted as problematic by Open Science initiatives.”

2. “This tacit incentivisation risks further increasing the market dominance of the big commercial publishers and clearly disadvantages smaller specialist and learned society publishers.”

3. “It takes no account of the fact that, at least in the humanities, there are still a significant number of researchers not affiliated with institutions covered by the deals, nor in some cases with any institution.”

4. “It privileges established over early career researchers. It ignores the needs of researchers based in the Global South, in smaller institutions, or in industry. It favours well-funded areas of research over equally important, but less well-resourced areas.”
The statement describes several alternative open access publishing models, but the authors emphasise that a global solution to open access across all disciplines will only be available once adequate resources and infrastructure are made available (see related ALLEA News Post).

In an article in Nature, Luke Drury (chair of the ALLEA Open Science Task Force), together with Open Science advocates from the International Science Council (ISC), reiterated that “funders, governments, universities, and research institutions must now step up to reform open access to the scientific record according to the framework outlined in the ISC and ALLEA statements”. The statement was further covered by leading science policy news outlets and organisations, such as Research Professional, Science Business, LIBER, SPARC, IAP.

ALLEA Statement on “Aligning Intellectual Property Rights with Open Science”

On 13 April 2022, the Open Science Task Force and the ALLEA Permanent Working Group Intellectual Property Rights (PWG IPR) co-authored the ALLEA Statement “Aligning Intellectual Property Rights with Open Science”. Two powerful ideas currently dominate discussions of research policy around the world. These are, on the one hand, what is generally called the open science or open research movement, and on the other, the desire to use research as a driver of innovation and economic growth, which sees knowledge as intellectual property to be valorised and protected. Prima facie there is some tension between these two positions, although a more nuanced approach suggests that this may be something of a false dichotomy.

The statement explores these issues, asks whether there is really a conflict between the two policy drivers, and suggests some ways in which they could be better aligned. The authors conclude that:

- There is no fundamental opposition between the ideals of open science and the valorisation of research through the assertion of intellectual property rights. Indeed, intellectual property law provides the necessary legal framework within which open science can be implemented.

- There is however a need to modernise patent law to better align it with open science through, among other things, the introduction of grace periods and greater clarity regarding the non-commercial use of knowledge disclosed in patents.

- Licence income from patents must not be seen as a substitute for public funding of research although it can be a useful supplement in some cases.

- The use of patenting activity as a metric in research evaluation is to be deprecated. It is too heterogenous, too easily gamed, and fails to capture the value of fundamental collaborative research.

The full statement can be found on our website, together with an accompanying ALLEA News Post.
Other news and activities

- The Open Science Task Force met online on several occasions over the past year to discuss activities and publications. Representatives of the Open Science Task Force are regularly joining meetings of the PWG IPR, and vice versa.
- In January 2022, the Consortium for European Social Science Data Archives (CESSDA) approached ALLEA to provide expert input on 'ethical and legal issues in open science in the social sciences and humanities', as part of the Horizon 2020-funded Social Sciences & Humanities Open Cloud (SSHOC) project. Luke Drury (chair of the Open Science Task Force) and Deborah Oughton (member of the PWGSE) participated in an online interview; Alain Strowel (chair of the PWG IPR), Maciej Maryl (chair of the WG E-humanities), and Bertil Emrah Oder (member of the PWGSE) provided written input. The results will be published as the "Report on ethical and legal issues and implication for EOSC" in spring 2022.
- The UNESCO Recommendation on Open Science has been adopted at the 41st session of the UNESCO General Conference on 23 November 2021, making it the first international framework on Open Science. As part of the UNESCO Open Science Partnership, the ALLEA Open Science Task Force participated in the design of the stakeholder survey and responded to the UNESCO multi-stakeholder consultations on Open Science (see related ALLEA News Post).
- Luke Drury and the ALLEA scientific policy officer are exploring further directions for cooperation with the International Association of Scientific, Technical and Medical Publishers (STM) and the GYA, following the joint workshop on “The future of peer review in scholarly communications” from November 2020.

3.6 INTELLECTUAL PROPERTY RIGHTS

Technology and knowledge transfers from academia to other partners are now central in the eco-system comprising research organisations, public institutions, and private actors, including companies and NGOs. To ensure that innovation flourishes and is financially supported in a competitive global environment, ALLEA closely follows research policies that rely on an adequate delineation and use of Intellectual Property Rights (IPRs).

The ALLEA PWG IPR, chaired by Prof Alain Strowel from UCLouvain, Saint-Louis University (Brussels), has been active since the 1990s and has prepared and issued reflections, declarations, and recommendations on the most challenging topics of IPRs related to academic activities.
ALLEA Statement on the “European Commission’s Public Consultation on the Data Act”

In September 2021, the PWG IPR responded to the European Commission's Public Consultation on the Data Act in the form of an ALLEA Statement.

In many scientific fields, including astronomy, biology, and geology, scientific data are commonly, and increasingly, generated with the aid of highly advanced digital means and equipment. The draft Data Act, released by the Commission on 23 February 2022, contains a provision (Article 35) which proposes an interpretation of the sui generis database right, which excludes its application to databases containing data obtained from or generated by the use of a product or related service. The ALLEA statement recalls the principles of Open Science and underlines the vital role of access to data for scientific progress:

“We strongly object to the extension of the existing sui generis database right to embrace machine-generated data. (...) Creating IP rights in such machine-generated data would severely impede freedom of science and bear the risk of creating unwanted monopolies in scientific data sets,” the authors state.

The authors further urged the European Commission and other EU institutions to refrain from introducing any new IPRs that would protect “machine-generated data” (see related ALLEA News Post).

ALLEA Statement on “Vaccination Bottlenecks in the Global South and a Patent Waiver for Covid-19 Vaccines”


The low level of Covid-19 vaccination in the Global South is ethically unacceptable and risks prolonging the pandemic. The authors conclude, however, that the possible patent waiver under discussion within the WTO will not solve these vaccination bottlenecks in the short-term. Instead, the authors advocate that:

1. Additional and more robust measures with immediate effect should be undertaken to accelerate and improve the production, export, and distribution/administration of vaccines.

2. While it has given rise to a useful and legitimate debate, the patent waiver for Covid-19 vaccines supported by some countries within the WTO is not a silver bullet in the pursuit of vaccine equity. The focus on a patent waiver may distract attention from other measures that are of fundamental importance in striving towards this goal.

3. Important adjustments to patents and trade secret protections should be adopted hic et nunc by the EU, its Member States and other countries. In particular, improved procedures and institutional design should help to streamline the process for the compulsory licensing on pharmaceutical products.
4. Advance purchasing agreements for vaccines and the funding of research in the health sector should also be subject to additional scrutiny and to sharing obligations.

5. More should be done to improve the transfer of technology and know-how relating to healthcare towards low- and middle-income countries.

The statement was covered by leading science policy news outlets, such as Science Business, ScienMag, Research Professional, and EurekAlert (see related ALLEA News Post).

Other news and activities

- The PWG IPR met online on several occasions over the past year. At the last meeting, on 26 November 2021, guest speaker Karel Luyben (president of the European Science Cloud Association) discussed the development, challenges, and implementation of the European Open Science Cloud with a focus on IP-related issues. Representatives of the PWG IPR are regularly joining meetings of the ALLEA Open Science Task Force, and vice versa.
- The PWG IPR is scheduled to meet in person in Berlin in June 2022.
- Together with the Open Science Task Force, the PWG IPR co-authored the ALLEA Statement on "Aligning Intellectual Property Rights with Open Science" (see section 3.5).
- A joint meeting between the chair of the PWG IPR, Alain Strowel, and the European Association of Research and Technology Organisations (EARTO) took place in May 2021 to discuss opportunities for collaboration. On 18 March 2022, Alain Strowel presented the recent work of the PWG IPR at the EARTO "WG Virtual Legal" meeting.
- Alain Strowel has responded to the European Commission’s call for expressions of interest to join the European community of practice to co-create the Code of Practice for the smart use of IP. Several online meetings have taken place since February 2022.

3.7 E-HUMANITIES

Humanities data can be rich and complex, non-standardised in format, without common or consistent metadata and ontologies, and can be subject to complex rights issues. Consensus and best practices regarding digitisation and metadata standards for common usage, that still retain the richness of different disciplines and data types, could enable open access to humanities data, and facilitate data exchange and sharing between the wealth of archives, repositories, and libraries across Europe.

The Working Group E-Humanities (WG E-Humanities), chaired by Dr Maciej Maryl from the Polish Academy of Sciences, identifies and raises awareness for the priorities and concerns of the digital humanities, contributes to the Open Science and Open Access agenda from a humanities and social sciences perspective and builds consensus on common standards and best practices in e-humanities scholarship and digitisation.

During the most recent meeting of the WG E-Humanities, held on 22 February 2022, the WG created a draft outline for a report on “Recommendations on Recognising Digital Practices in the Humanities”, which is scheduled for publication in autumn 2022.
Other news and activities

- The WG E-Humanities met online on several occasions over the past year. At the last meeting, on 22 February 2022, guest speaker Catherine Lyall (The University of Edinburgh) joined to discuss good practices in the assessment of collaborative and interdisciplinary research.
- The WG E-Humanities is scheduled to meet online in May 2022 and in person in Rome in July 2022.

3.8 CLIMATE SUSTAINABILITY IN THE ACADEMIC SYSTEM

In recent years, we have come to realise how global challenges such as climate change increasingly affect many, if not all aspects of life. In the same vein, the climate crisis has not left academia untouched. On the contrary, effective and thorough analysis of academia’s own contribution to this effect is needed to make sense of the status quo and seek long-term remedies.

As part of an initiative led by its member, Die Junge Akademie (German Young Academy), ALLEA launched a project dedicated to examining how the academic system can transform itself to become more climate sustainable, while retaining the international collaboration and research excellence that are indispensable for it to thrive.

Experts affiliated with senior or young academies as well as other academic institutions were called to serve in an interdisciplinary working group chaired by Professor Astrid Eichhorn, speaker of Die Junge Akademie. Nominated experts comprise the consulting panel, which was installed to provide ad-hoc advice to the activity of the working group.

From the outset, the project has examined the impact academia has on climate by distinguishing between key stakeholders and focussing on virtual versus physical mobility, in addition to further sources of greenhouse gas emissions. In a dedicated public panel, the project specifically engaged with representatives from universities, research institutes, and funding organisations to gauge how their sustainability strategies are translated into practice.
These and further expert discussions laid the groundwork for drafting a report, which is due to be released in early May 2022. The report is intended to cater to a range of stakeholders in academia and provide a set of tailored recommendations as to how a change in culture can be pursued, e.g., by raising awareness of academia's climate impact and acting in a coordinated manner to reduce it. In an interview with ALLEA Digital Salon, Astrid Eichhorn, chair of the working group, argued that the academic community should elaborate on “their own path towards net zero” rather than awakening to blanket regulations, which may be imposed in due course, provided academia does not act now. Evidently, the report will also cast light on academies and learned societies as key stakeholders in tackling the issue of climate sustainability.

Overall, the work of ALLEA on this topic seeks to kick-start the scientific and public discourse and inspire the involved parties to design their own sustainability strategies in line with specific recommendations laid out in the report.
4. SCIENCE ADVICE FOR POLICY

4.1 SCIENCE ADVICE FOR POLICY BY EUROPEAN ACADEMIES (SAPEA)

The European Commission’s Scientific Advice Mechanism (SAM) provides independent and transparent scientific advice to the European Commission, working with a European Commission Group of Chief Scientific Advisors (GCSA) and the European Academies (SAPEA).

SAPEA comprises the five European Academy Networks: Academia Europaea (AE), ALLEA, European Academies’ Science Advisory Council (EASAC), European Council of Academies of Applied Sciences, Technologies and Engineering (Euro-CASE), and Federation of European Academies of Medicine (FEAM) – representing over 100 Academies in over 40 European countries, and spanning the disciplines of engineering, humanities, medicine, science, and social sciences.

As one of the five networks of academies taking part in the SAPEA Consortium, ALLEA provides scientific advice by involving experts nominated by its Member Academies, coordinating the production of evidence review reports, or providing support in any other science advice activity in which the consortium is involved. ALLEA furthermore leads SAPEA’s work package on communications, dissemination and public engagement.

The SAPEA project was funded through a grant from the EU’s Horizon 2020 framework programme. **SAPEA will continue its activities under the Horizon Europe framework programme**, running from May 2022 until December 2024, SAPEA welcomed a new Academy Network to the consortium: the Young Academies Science Advice Structure (YASAS).

**Upcoming Evidence Review Reports**

A SAPEA Evidence Review Report on **Strategic crisis management in the EU: Improving EU crisis prevention, preparedness, response and resilience** is scheduled for publication at the end of June 2022. ALLEA is acting as the lead network on the topic. This topic is an initiative from the GCSA, in collaboration with the European Group on Ethics in Science and New Technologies, and the SAPEA report will inform their Scientific Opinion. The question to be answered is: “Based on a broad and multidisciplinary understanding, how can the EU improve its strategic crisis management?”. The Scoping Paper can be found [here](#).
Published Evidence Review Reports and impact

The SAPEA Evidence Review Report on A Systemic Approach to the Energy Transition in Europe was published in June 2021. This was a bottom-up topic developed and coordinated by Euro-CASE, and the report informs a Scientific Opinion of the GCSA. The main question addressed was: How can the European Commission contribute to the preparation for, and acceleration and facilitation of, the energy transition in Europe given the present state of knowledge on the possible transition pathways? Following the publication of the report, a series of outreach events were organised, including two presentations in the European Parliament (one via their Science and Technology Options Assessment Panel's workshop and the other via the MEPs' sustainability intergroup), an International Network for Government Science Advice (INGSA) webinar, a European Commission Library Talk Roundtable to different Policy Officers of the Directorates-General (DGs), Berlin Science Week, and COP26.

On 2 March 2022, SAPEA published its 10th Evidence Review Report on Improving cancer screening in the European Union alongside the GCSA's Scientific Opinion. The questions to be answered by the Scientific Advice Mechanism were: (1) How can cancer screening programmes targeting breast, cervical, and colorectal cancers be improved throughout the EU? (2) What is the scientific basis extending such screening programmes to other cancers e.g. lung, prostate and gastric cancers, and ensuring their feasibility throughout the EU? (3) Which are the main scientific elements to consider, and best practices to promote, for optimising risk-based cancer screening and early diagnosis throughout the EU? This work was coordinated by FEAM. SAPEA provided evidence on cancer screening in the form of three expert workshops informed by three systematic literature reviews. The Report and Scientific Opinion have been well received and will inform the European Commission's proposal to update the 2003 Council Recommendation on cancer screening. SAPEA has now started its outreach campaign for the topic. DG SANTE have invited the project chairs, Professors Rebecca Fitzgerald and Harry de Koning, to present the report during two meetings in March.

SAPEA outreach: public engagement activities

ALLEA leads all SAPEA communication activities.

The SAPEA Communications Team has grown from two to three persons now, with the recent hiring of a Digital Communications Officer. SAPEA has now achieved very good visibility and credibility amongst the science advice communities, and SAPEA’s Evidence Review Reports also achieve great visibility and impact amongst the relevant stakeholder communities, with increased coordination with the GCSA for better policy impact.

The audience of the SAPEA Podcast “Science for Policy” has also grown significantly since its inception, with the covering of a wide range of topics by experts in science policy advice from diverse backgrounds. The latest episodes can be found here: https://sapea.info/podcast/.
SAPEA and the GCSA are co-organising a conference on 27–28 April 2022, in Brussels, with the title “Science Advice under pressure”. This event is the first one officially organised by the Scientific Advice Mechanism as a whole. The target audience will be the broad science advice community, including policymakers, science advisors, researchers, citizens, and professionals working at the science-policy interface. The conference, organised as a hybrid event, has attracted high level speakers and all 600+ tickets have sold out for both online and in-person attendance. More details can be found here.

4.2 GENOME EDITING FOR CROP IMPROVEMENT

Genome editing has been, and continues to be, one of the most hotly contested and most groundbreaking innovations in recent history. Open scientific questions, and resulting legislative uncertainty, for the uses of this technology in humans, animals, and plants, remain at the top of the regulatory agenda. Key points are still in need of resolution for genome editing technologies to fulfil their promised potential, while ensuring their use within socially and ethically accepted frameworks.

ALLEA engages in several activities that explore the potential applications and risks of genome editing for crop improvement. In this context, ALLEA responded to the European Commission’s recent public consultation on ‘legislation for plants produced by certain new genomic techniques (NGTs)’ in November 2021.

The Statement builds on the recommendations from the 2019 ALLEA report “Genome Editing for Crop Improvement” and emphasises that:

“[T]he increasing global demands (both in quality and quantity) on our food systems, as well as the challenges imposed on the agriculture sector by climate change, are huge and it seems unreasonable to exclude possible solutions that may allow opposing these challenges.”

Re-Imagine Europa-led Task force on Sustainable Agriculture

Since November 2020, ALLEA has been participating in a Re-Imagine Europa (RIE)-led cross-disciplinary Task Force on “Sustainable Agriculture and Innovation”. The task force is supported by the Bill and Melinda Gates Foundation and aims to develop scientifically backed proposals on how new innovations, such as genome editing, can support the creation of more sustainable and resilient European agricultural systems.
On 22 July 2021, the task force presented two reports that included lessons from existing narratives surrounding the debate on genome editing and the potential ramifications for European policy actions:

- In the first report, “Beyond the Apple of Discord: Existing Narratives and Ways Forward,” the task force focuses on how different stories, symbols, images, and metaphors are used to inform the debate on the future of European agriculture. The report specifically describes the role of emotions and narratives in framing the way we think about using genome editing for crop improvement.

- The second report, “White Paper on the Regulation of Genome Editing in Agriculture,” describes the attributes of an ideal regulatory system and presents five policy options to be considered in the upcoming debates on genome editing between the European Council, the European Parliament, and relevant stakeholders.

On 5 October 2021, the task force organised an online Expert Committee meeting to exchange international perspectives on regulatory systems for the application of new genomic techniques in agriculture. The meeting started with a keynote presentation from Professor Jennifer Doudna, 2020 Nobel Laureate in Chemistry for the development of a method for genome editing (i.e., CRISPR-Cas9). In her presentation, Professor Doudna underlined the role genome editing can play in counteracting the local consequences of climate change on our food systems, which comprise increased disease severity, lower crop yields, and decreased nutritive quality of food:

> “CRISPR-based solutions will allow farmers to adapt to a changing climate and sequester more carbon while preserving prized regional varieties. There is an incredibly important role for CRISPR in the protection of small farmers.”

The keynote lecture was followed by six short interventions by international experts that shed light on the different regulatory systems for genome editing in agriculture in key regions of the world (see related ALLEA News Post and video highlights from the event).

Most recently, on 2 March 2022, the task force convened a meeting with European farmers from a diversity of backgrounds, practising different forms of agriculture. Since farmers are directly affected by challenges posed by climate change, their experiences should be central to finding tailored solutions, whilst at the same time implementing the aims of the European Commission’s Farm to Fork Strategy (F2F) Strategy. Irene Tolleret, Member of the European Parliament & Member of the Committee on Regional Development, delivered the keynote address, wherein she underlined the critical role for innovation in the future of sustainable farming.
4.3 HEALTH INEQUALITIES

More and more researchers agree that the COVID-19 pandemic has exacerbated the inequalities that have accompanied our societies in the recent decades. Disparities in health that may stem from various sources have equally faced ramifications since the start of the pandemic.

How science can help make sense of inequalities in health has long been one of the focus areas of ALLEA’s science advice portfolio. In cooperation with the Royal Netherlands Academy of Arts and Sciences (KNAW) and FEAM, this project specifically scrutinised how and whether new research methods lead to better insights in understanding the health gap between different socio-economic groups. In a series of expert workshops held throughout 2021, the scientific committee analysed the following questions:

- To what extent are health inequalities caused by differences in education, occupational class, or income?
- What is the relative importance of specific factors involved in the relationship between education, occupational class or income and health?
- What is the effectiveness of interventions and policies to reduce health inequalities?

As a result, the project rolled out the report *Health Inequalities Research: New methods, better insights?*, which introduces a new generation of quantitative research methods and invites to study of the issue through their lens. The report and its findings were discussed at the conference hosted by KNAW on 8 December 2021. In a speech delivered on behalf of ALLEA, Vice President Annette Grüters-Kieslich emphasised that the “Covid-19 pandemic has not only demonstrated the crucial role of functional healthcare systems for citizens but has also highlighted its repercussions on health inequalities beyond the provision of medical care.” She also made a case for “the significant economic effects that have hit many citizens including closure of schools and subsequent home schooling that are likely to have long lasting effects, especially on women and children”.

In an interview with the ALLEA Digital Salon, Chair of the project scientific committee Johan Mackenbach offered concrete measures to adequately address health inequalities in Europe: “Improve working conditions for people in physically or mentally hazardous jobs. Tackle socio-economic inequalities in smoking by raising the price of cigarettes and by offering free smoking cessation support to disadvantaged smokers. Alleviate poverty, particularly among children. Remove barriers to health care, including primary and preventive health care services, in disadvantaged areas.”

The tripartite project was successfully concluded in early 2022. ALLEA is thankful to its partners KNAW and FEAM for the joint collaboration on this pivotal topic, which was addressed at a critical time.
4.4 INTERNATIONAL TRANSFER OF HEALTH DATA FOR RESEARCH

Data sharing is an essential part of modern international research. In medical research, pooled data on individuals are often needed to obtain sufficiently large study samples, and to ensure that research conducted elsewhere is also relevant for patients in Europe. Ultimately, global sharing of health data is key to maximising the individual and societal benefits obtained from the contribution of research participants.

Following the publication of the joint ALLEA/EASAC/FEAM report “International Sharing of Personal Health Data for Research” on 8 April 2021, the main activities surrounding this project have focussed on outreach and dissemination.

On 3 June 2021, ALLEA, EASAC, and FEAM hosted an online discussion event to present the results of the first report of the tripartite collaboration of the academy networks. Main conclusions were presented by the lead authors of the report and debated with relevant stakeholders in a panel discussion.

The ALLEA Digital Salon also featured an interview with Dr Robin Fears, one of the lead authors of the ALLEA/EASAC/FEAM report, on the key messages of the joint report and its implications for international medical research and European citizens.

“International sharing of data for research is often particularly important, for example to compare the determinants and outcomes of disease in different settings, to assess whether findings in other countries are also applicable to patients in Europe, to develop new areas of health research, such as artificial intelligence, and to capitalise on the emergence of new big data sets.”

On 2 August 2021, the lead authors of the report published a Comment in Nature Medicine to bring the key conclusions and recommendations to the attention of the broader medical community (see related ALLEA News Post). The authors highlighted that “Covid-19 has shown that international collaborations and global data sharing are essential for health research, but legal obstacles are preventing data sharing for non–pandemic-related research among public researchers across the world, with potentially damaging effects for citizens and patients.”

A news story in Lancet Oncology places the findings of the report in the context of international cancer research and featured a quote from ALLEA President Antonio Loprieno. Finally, the report was discussed in a variety of national and international media outlets, including leading research policy news sources, such as Science Business, Research Professional, EURACTIV, and Politico.
5. SCIENCE AND SOCIETY

5.1 POLICY, EXPERTISE AND TRUST (PERITIA)

PERITIA (Policy, Expertise and Trust) is an EU-funded project investigating public trust in expertise. In a world increasingly relying on knowledge, trust in trustworthy expertise is essential to achieve progress and well-being. We need experts to help policymakers and citizens make sensible decisions in important matters like public health or climate change.

ALLEA is a major partner in the project consortium with crucial contributions to make. Through a Scientific Policy Officer and a Communications and Media Relations Officer, ALLEA ensures the project’s high quality, coherence, and effective communication. It does so by strengthening transnational, transdisciplinary, and intergenerational exchange through internal and external communication, and public engagement, forming the project’s Communications and Public Engagement Office (CPEO).

Highlights of PERITIA’s activities between May 2021 and April 2022

Experts should not be reduced to “pure scientists”. “What an expert is” has been discussed by many schools of thought. Some say that “experts are those who get things right”, others focus on their role in “knowledge distribution”, while their gatekeeping function also attracts attention. How can non-experts recognize a reliable expert? What does it take for non-experts to trust experts? What problems impede trust in experts? Are experts really those who possess better evidence or more reliable reasoning skills? PERITIA investigators Maria Baghramian and Michel Croce examine the nature of expertise in their chapter ‘Experts, Public Policy and the Question of Trust’, published in the Routledge Handbook of Political Epistemology. To dive deeper into the topic, we recommend the Words Matter podcast episode What Makes an Expert with Carlo Martini.

Who needs accuracy? “Although people generally aim at getting a fair representation of reality, accuracy about scientific issues only matters to the extent that individuals perceive it as useful to achieve their own goals,” conclude our colleagues Tiffany Morisseau, Ty Branch and Gloria Origgi. Examining the uptake of hydroxychloroquine as a potential treatment of Covid-19 in France, as well as the media hype and public concern for (online) misinformation surrounding this topic, the article argues that “people who endorse scientific misinformation are not truly interested in its accuracy”, and that many times, “plausibility at face value often suffices when it is meant to be used for social purposes only.”

Underestimating the role of values and emotions in policymaking. “Looking at the political scene today, many experts and policymakers may have underestimated the role of emotion and values in establishing trust and trustworthiness. (...) People perceive trustworthiness not just in those formal criteria of competence, track record, etc. but also in terms of group values, group emotions”, says PERITIA’s coordinator Maria Baghramian in a six-part conversation at the philosophy and music festival ‘How The Light Gets In’.

Digital media and trust in science: a complicated relationship. Before digitalisation became central to our lives, trust was placed in systems of human-made rules, mediated by institutions like journalism or science. With the online transformation, the “new models of trust” are being redefined in “black boxes”: AI-driven, ungoverned sets of standards created within global companies and with no clear accountability. What can we do about this? How should we govern (European) platform societies? Check out the ‘Trust in Expertise in a Changing Media Landscape’ Conference and the subsequent special issue on the topic for more.
Listen to the brightest thinkers on trust. Some of the brightest thinkers were assembled for the PERITIA lecture series [Un]Truths: Trust in an Age of Disinformation. The series was hosted by the University College Dublin and the American University of Armenia and strongly supported by ALLEA. It explored the concepts of trust and truth in light of current events, and included Q&A sessions moderated by Dr Shane Bergin and Prof Maria Baghramian (University College Dublin). Over 1,400 attendees with more than 200 questions participated in the 10 lectures led by prominent academics from across Europe and the United States.

In the first part of the series, from April to June 2021, participants were able to attend and interact with Naomi Oreskes (Harvard University), Quassim Cassam (Warwick University), Michael Lynch (University of Connecticut), Heather Douglas (Michigan State University), and Dan Sperber (Institut Jean Nicod). The topics addressed ranged from trust in science, the value of truth in democracies or science advice systems, to conspiracy theories or cognitive science questions related to trust and argumentation.

The Autumn series, from October to November, brought together Maya J. Goldenberg (University of Guelph), Stephan Lewandowsky (University of Bristol), Philip Kitcher (Columbia University), and Åsa Wikforss (Stockholm University). In this round of lectures, vaccine hesitancy, the lack of action against climate change, the impact of social media and disinformation on trust in science or the concept of knowledge resistance were discussed. The series was concluded with the final lecture ‘Expertise, Democracy and the Politics of Trust’ by Sheila Jasanoff (Harvard Kennedy School), winner of the 2022 Holberg Prize.

Some lessons from Covid-19 expert advice on social media. What is the role of non-expert voices on social media at times of a health crisis? What can happen when a government asks for help from a social media influencer to communicate science advice? José van Dijck, winner of the prestigious Spinoza Prize in 2021, and Donya Alinejad extract some lessons from their research on social media communication and trust in scientific advice during the early stages of the pandemic in the Netherlands. To retain public trust in the new information environment, policymaking involves not just taking evidence-informed decisions. Instead, we should also distinguish between (a) soliciting expert advice (to emphasise common knowledge), (b) making political choices (to create common ground), and (c) communicating those choices, including expert evidence.

Creating a climate of trust is the responsibility of many. Trust is complex, fragile and takes time to build. It is not only up to scientific communicators and scientists to create and maintain the conditions to establish or re-establish trust in science, argued panellists in this 1-hour discussion as part of the international conference SCI:COM. Moderated by Shane Bergin, PERITIA experts pointed out the role of politicians in their use of science and of citizens in their use of social media as co-creators of a healthy climate of trust in science.

When Big Tech governs right-wing platforms. A PERITIA case-study by José Van Dijck, Tim de Winkel, and Mirko Tobías Schäfer examined the case of Gab, one of the well-known fringe platforms that has
survived several rounds of what the authors define as ‘deplatformization’ since its inception in 2017. Evaluating deplatformization in terms of governance, the question that arises is who is responsible for cleansing the ecosystem: corporations, states, civil society actors, or all three combined?

**The holy grail of science communication.** Many discussions on trust in science in recent years end up in the search for a holy grail: trustworthy and trust generating science communication. To that end, PERITIA took part in the Future of Science Communication Conference (see section 5.4). Many PERITIA experts took part in various panels and workshops, offering their latest findings on how to frame a feasible concept of trust for science communication, looking into gamification strategies and social media fixes to fight science disinformation, and comparing trust in science surveys across countries.

**PERITIA’s student competition Youth on Trust Awards (YOTA).** The competition invites students, aged 13 to 18, from across Europe to share their views on the topic of public trust in a forum where their voices can be heard. ALLEA and the Polish Academy of Sciences are leading partners in this initiative. The finalists are expected to be announced at an online event in late May featuring the President of the Republic of Ireland, Micheal D. Higgins. Read more at youthontrust.eu.

### 5.2 FACT OR FAKE? TACKLING SCIENCE DISINFORMATION

The Covid-19 pandemic, and the accompanying ‘infodemic’ described by the World Health Organization (WHO), have placed science disinformation at the centre of global debates. Likewise, the spreading of misleading information from organised vaccine opponents has caused a drop in vaccination compliance, putting children and societies at serious health risk for several diseases. Similarly, climate change disinformation is routinely used in efforts to undermine scientific reports and to increase polarisation within societies, thereby hindering effective policy decisions on mitigation efforts and their implementation.

While disinformation strategies are intoxicating public discourses in many fields, science disinformation is particularly dangerous to democratic governance and society at large. As highlighted by the ongoing pandemic, an undermining of trust in science poses a fundamental threat to political and individual decisions based on evidence and scientific knowledge.

Against this background, ALLEA and its Member Academies convened an interdisciplinary and cross-sectoral group in 2020, under the chairmanship of Prof Dan Larhammar from the Royal Swedish Academy of Sciences, to target this wide-reaching, and growing, problem through interdisciplinary perspectives and methods. The outcome has been the **ALLEA Discussion Paper “Fact or Fake? Tackling Science Disinformation,”** which was presented and discussed in a Roundtable Discussion at the 2021 ALLEA General Assembly. Over the past years, extensive research and a variety of strategies have been developed and applied to tackle science disinformation. ALLEA’s paper reviews this work, focusing on the roots and consequences of this multi-dimensional phenomenon, as well as practical solutions for policy, technology, and (science) communication.
The paper examines the potential of measures to tackle science disinformation and calls for:

- A stronger focus on communicating how science works and more dialogue in science communication practices
- Serious engagement with the public when exercising or communicating research
- Valuing the virtue of intellectual humility when communicating scientific evidence
- The maintenance of good research practices and high ethical standards to ensure integrity and trustworthiness
- Accountable, honest, transparent, tailored, and effective science advice mechanisms

The Discussion Paper has been widely received as an important contribution to the ongoing discussion by many research and innovation actors. For instance, its main findings were discussed in a panel discussion on disinformation at the Future of SciComm conference (see section 5.4 and this interview with Prof John Cook).

ALLEA was also invited to discuss the topic in a closed workshop series organised by the WHO as part of the conference WHO global conference on communicating science during health emergencies.

The Czech Academy of Sciences also co-produced and disseminated a Czech translation of the report (see related ALLEA News Post).
5.3 MADAME DE STAËL PRIZE & LECTURE

Every year, ALLEA awards the Madame de Staël Prize to eminent scholars and intellectuals whose work represents a significant contribution to the cultural values of Europe and to the idea of European integration. Laureates are invited to showcase their work at the annual Madame de Staël Prize Lecture by delivering an interactive lecture pertinent to their career and reflecting on current affairs in the European political and scientific landscape.

In 2021, the Jury named Professor Helen Keller, Chair for Public Law, European and Public International Law at the University of Zurich, and former member of the UN Human Rights Committee and the European Court of Human Rights (ECtHR) as the laureate of the Madame de Staël Prize for Cultural Values. The Madame de Staël Prize Lecture took place on 6 November 2021 and was hosted by the Swiss Embassy in Berlin in a hybrid format as part of Berlin Science Week.

The 2021 Madame de Staël Prize Lecture

The event was opened with welcome remarks by this year’s host, Dr Paul R Seger, the Swiss Ambassador to Germany, followed by a laudatory speech delivered by ALLEA President Antonio Loprieno. Articulating the decision made by the Prize Board to select Professor Keller as the 2021 laureate, Professor Loprieno stated:

“Professor Keller stood out among a dozen other candidates because she not only excelled in the theoretical and academic field, having led research projects and held teaching positions for the past 20 years, but she also greatly contributed to Europe’s political and social life, serving at the United Nations Human Rights Committee between 2008 and 2011, at the ECtHR in Strasbourg between 2011 and 2020, and at the Constitutional Court of Bosnia and Herzegovina since December 2020.”
Professor Keller delivered the lecture, titled ‘Climate Change in Human Rights Courts: Overcoming Procedural Hurdles in Transboundary Environmental Cases’. Her lecture touched upon the rising number of environmental cases brought before domestic and international human rights bodies, and how these courts, such as the ECtHR, can overcome the admissibility hurdles that currently prevent climate cases from receiving full consideration on their merits.

Professor Keller’s lecture was followed by an interactive panel discussion, moderated by Professor Başak Çalı, Professor of International Law at the Hertie School and Co-Director of the School’s Centre for Fundamental Rights. She was joined by Professor Felix Ekardt, Head of the Research Unit Sustainability and Climate Policy, and Professor of Public Law and Legal Philosophy at Rostock University, and by Dr Adam Levy, Doctor in Atmospheric Physics (University of Oxford), Science Journalist, and Climate Communicator.

The 2021 Madame de Staël Prize Lecture was recorded and can be watched in full here.

5.4 ACADEMIC FREEDOM AND INTELLECTUAL DISSENT

What does academic freedom mean today in relation to other core academic values? What are its scope and limits? What have we learned from the Covid-19 pandemic in terms of academic freedom and intellectual dissent? How does social media impact the independence of research from political interests? To answer these and other essential questions, ALLEA and Scholars at Risk organised the international virtual conference ‘Academic Freedom and Intellectual Dissent’ with the President of Ireland Michael D. Higgins and US linguist and political activist Noam Chomsky as star speakers.

The event took place online on 8 June 2021 and focussed on the role of intellectual dissent and academic freedom in democratic societies in a Western, particularly European, context. Academics and politicians came together to discuss the scope and the limits of academic freedom in the context of political populism, privatisation, and the exigencies of the post-Covid social and educational landscape.

“When academic freedom is seriously undermined, in extremis, scholars may find themselves targeted for public vilification, job loss, imprisonment, or even death in parts of the world”, said the President of Ireland in his address. He advocated for “the recovery of the right to pose the important questions, such as Immanuel Kant did (...): What might we know? What should we do? What may we hope?”.
In his keynote, Noam Chomsky reflected on the crisis and privatisation of universities and academic institutions. He advocated for enabling the scientific community to make use of research funds without the intervention of politicians or donors. He pointed to this underlying tension within academic institutions as one of the key aspects impeding the scientific community from reaching an ideal of academic freedom. “Looking over the centuries, the ideal has often been uphill, but it has been a constant battle to try to sustain it in the face of external, social, economic, and ideological pressures”, he argued.

Chomsky also challenged the idea of attributing the drivers of innovation and discovery in today’s societies to private businesses’ risk-taking. “This doctrine is mostly myth. Most of this work takes place in the public sector with public funding,” he stated.

ALLEA President Antonio Loprieno opened the event with a call for action to the academic community: “There needs to be a little bit of more courage on the side of academic leaders to be proactive in defending these values”. In his keynote, he outlined the semantic trajectory of the concept “academic freedom”, from the “scholarly freedom” of medieval times to the “quest for truth” that catapulted the Enlightenment.

He also underlined the fundamental distinction between positive and negative academic freedom. Negative liberty refers to “removing the barriers to fulfil one’s academic mission” whereas “positive” implies advocating for a certain number of rights by the academic community. “Do we want to protect individual rights, or do we want to enforce a certain number of values that we share as an intellectual community?”, he asked.

The panel discussion, chaired by scientist Jim Al-Khalili (Royal Society), delved into various aspects of academic freedom, from its inclusion in higher education and research policy to the role of scientists as activists and intellectual dissidents.

The speakers included Maeve Cooke (University College Dublin), Christian Ehler (Member of the European Parliament), Roja Fazaeli (Trinity College Dublin, Scholars at Risk), Andrea Peto (Central European University), and Peter-Paul Verbeek (KNAW).

MEP Ehler related the current threats to academic freedom in Europe to two trends: the extreme democratic tensions, particularly in democratic discourse, and the democratic decline in EU Member States. “If academic freedom falls, one pillar of democracy falls with it”, he concluded.

Watch the recordings on ALLEA’s YouTube channel.
5.5 FUTURE OF SCIENCE COMMUNICATION CONFERENCE

How can we connect research and practice in the science communication field? How can science communication help make science more trustworthy? What lessons have we learned on the relationship between science and politics during the Covid-19 pandemic? Over 1,000 participants joined two days of virtual discussions and workshops to tackle these and more questions at the Future of Science Communication Conference.

After a year of planning and curating, the event took place in a digital format on 24–25 June, co-organised by ALLEA and Wissenschaft im Dialog, the organisation for science communication in Germany, and funded by the German Federal Ministry of Education and Research within the scope of Germany’s Presidency of the Council of the European Union.

The international conference brought together actors from research and practice of science communication. Its goal was to sensitise the various stakeholders from science, science communication, and politics to the respective challenges, and to provide an impetus for stronger networking and transfer between the ‘science of science communication’ and European practitioner communities.

Attendees could enjoy three keynotes and six panels, participate in ten workshops, and attend three lightning talk sessions, a poster session and a networking session. All sessions were related to one of five topics: Science & Politics, Trust in Science, Target Groups of Science Communication, Open Science & Citizen Science, and Fake News & Disinformation.

The panel “Fake News & Disinformation: A pandemic of its own?” featured Natali Helberger (University of Amsterdam/the Royal Netherlands Academy of Arts and Sciences (KNAW)), Dan Larhammar (ALLEA/Royal Swedish Academy), and Philipp Lorenz-Spreen (Max Planck Institute for Human Development), and was moderated by journalist Kai Kupferschmidt. Panelists discussed digital media literacy and the importance of including schools in the debate on fake news. Lorenz-Spreen added: “We cannot rely on the idea that with the next generation and digital natives,
problems with fake news will disappear. We can see even university students today can be victims of fake news.”

In a pre-recorded impulse video, Dietram A. Scheufele (University of Wisconsin-Madison/BBAW) challenged common wisdom on the relevance of disinformation in today's science communication debates: “There is very limited social scientific evidence, if any, to suggest that misinformation directly connects to more pro-social behaviours, for instance, physical distancing or getting vaccines when available”. The moderator, Kai Kupferschmidt, provided additional thought-provoking ideas and key takeaways on a Twitter thread.

The conference also featured a panel discussion on science and politics moderated by ALLEA President Antonio Loprieno. The panel included Antje Boetius (Alfred Wegener Institute), Janusz Bujnicki (International Institute of Molecular and Cell Biology in Warsaw), Ortwin Renn (Institute for Advanced Sustainability Studies Potsdam/BBAW), and Bella Starling (Vocal/Wellcome Engagement Fellow/Manchester University NHS Foundation Trust). A key question that centred the debate was: What do policymakers want from scientists?

SAPEA and PERITIA workshops

Two ALLEA projects also found space in the programme. The workshop “Communicating microplastics risk: Balancing sensation and reflection” was hosted by SAPEA and featured Bart Koelmans (University of Wageningen), Sabine Pahl (University of Vienna), Lesley Henderson (Brunel University), and Toby Wardman (SAPEA).

Additionally, PERITIA organised two workshops: “Trust in science in social surveys: challenges, measurement and case studies” and “Using experiments to fight science disinformation online: an evidence-based guide”. The first workshop provided an overview on the nuances and complexity of measuring trust in science across countries and different contexts.

The second workshop, led by Carlo Martini (PERITIA), offered an overview on strategies to tackle disinformation with the use of attention and monetary incentives on social media. The contribution of John Cook (Monash University) brought additional perspectives on the use of gamification to foster critical thinking. Read more about this in the ALLEA Digital Salon interview with him.

For more information on the contents of the conference, see our extensive online documentation including this multimedia “page flow”. 
**FSCC 2.0 in Brussels in 2022**

Following the very successful Future of Science Communication Conference that ALLEA co-organised in 2021 – which saw over 1,000 participants join the two-day virtual discussions from all over the world – ALLEA has partnered once again with Wissenschaft im Dialog to co-organise the Future of Science Communication Conference 2.0 (FSCC 2.0), an in-person event in Brussels on 26 April 2022.

Like its predecessor, FSCC 2.0 brought together actors from research and practice to tackle the most pressing questions in the field of science communication. It specifically targeted and involved policymakers from EU institutions and developed concrete strategies for the alignment and improvement of science communication to tackle future crises and challenges. It built on the interim results and identified problems of the 2021 conference, provided impulses, and proposed solutions for a strategic and institutional (re-)orientation of science communication in Europe (see programme). ALLEA also participated in the WHO conference on science communication and was invited to a series of closed expert workshops on science communication.

**5.6 SCIENCE EDUCATION**

Education policies across Europe highlight the importance of the role science education plays in ensuring citizens have the requisite knowledge and skills to enable them to become “informed critical consumers of scientific knowledge”, according to the Organisation for Economic Co-operation and Development (OECD). Today, society faces numerous global challenges, including climate change, pandemics, pollution, malnourishment, and hunger. Science is embedded in these challenges and science education has a crucial role in ensuring students – future decision makers – have the necessary knowledge and skills to make sense of these challenges and address them.

The ALLEA Working Group Science Education (WG Science Education), chaired by Cliona Murphy from the Royal Irish Academy, is committed to supporting the progression of science education throughout Europe to ensure the development of the necessary knowledge, skills, and motivation of students to pursue careers in science and participate as active and informed citizens. Science education plays a central role in ensuring students develop scientific reasoning, critical thinking, creativity, problem solving, and collaborative skills.

Following two online strategy meetings of the WG Science Education, the group has split into three sub-groups in November and December 2021 to explore future activities in three (interconnected) directions, as shown below.

**STEM Education**

The WG Science Education focusses on key questions in STEM education, such as "What is our current understanding and definition of STEM education?", "What does effective STEM education look like in practice in different national curricula?", and "Can we identify best practice examples (from European countries) in STEM education?". While exploring answers to these questions, the WG will also consider its implications for climate change education and digital-enhanced learning (see below).

**Climate Change Education**

The WG Science Education decided to base any further activities on climate change education on the directions proposed in the WG’s 2020 report “A snapshot of climate change education initiatives in Europe: initial findings and implications for future climate change education”. There are many important conclusions and recommendations in the report and, in order to create the required capacity to follow up on them, the WG is currently exploring possible third-party funding opportunities. The WG concluded that teacher professional learning, awareness, knowledge, and skills are central points to address in climate change education.
Digital Education

Digital education is becoming increasingly prominent in today’s education programmes, but there is a need to uncover what forms of digital and hybrid teaching truly provide an added dimension to teaching, and where they instead create additional challenges. In this space, the WG Science Education further explores the different aspects of digital-enhanced learning and what they mean for STEM education in general and climate change education in particular.

As of January 2022, the WG Science Education has welcomed five new members to complement its future activities:

- Prof Lucy Avraamidou – University Groningen (The Netherlands)
- Prof David Cole-Hamilton – Royal Society of Edinburgh (UK)
- Prof Andreas Demetriou – Academy of Sciences, Letters, and Arts (Cyprus)
- Prof Deb McGregor – Oxford Brookes University (UK)
- Prof Timo Leuders – University of Education, Freiburg (Germany)

Other news and activities

- The WG Science Education has met online several times over the past year to discuss possible future activities. The scheduled in-person strategy meeting of the WG has been postponed to September/October 2022 due to the pandemic.
- Cliona Murphy, chair of the WG Science Education, will represent the WG at the upcoming conference on Climate Change Education in June 2022 in Paris.
6. COMMUNICATIONS

If the previous reporting period required ALLEA communications activities to rapidly adapt to the disruption of the Covid-19 pandemic, the months from June 2021 to April 2022 allowed the team to consolidate and enhance its digital strategy.

In 2021, the communications team set up a plan for optimising ALLEA's digital engagement, developed multi-format content to effectively connect its various channels (newsletter, social media, website news section and blog), and supported the transition to a combination of digital and hybrid events as pandemic restrictions were loosened across Europe. The team also improved its stakeholders' engagement strategy by updating its internal and external contacts' database and focusing on tailored communications to effectively reach out to policy and science stakeholders.

One notable activity of this period was the organisation of the Future of Science Communication (see section 5.5), which offered communications staff and fellows of ALLEA member academies' opportunities for networking and learning from science communication trends, debates and best practices.

In September 2021, ALLEA launched a new communications strategy for the Madame de Staël Prize. This included a new visual concept to provide the prize with a more modern and cohesive look, which was meant to help build the identity of the Madame de Staël Prize and cement it as a prestigious award that honours scholars' contribution to the cultural values of Europe and to the idea of European integration. This update included a new corporate image and the production of a trophy. The webpage was re-designed, restructured and further developed. The event concept was also reconceptualised as a hybrid academic event embedded in the Berlin Science Week (see section 5.3).

In addition, regular communications activities continued in support of ALLEA’s working groups, projects, Presidency and membership in close cooperation with science and project officers, working group chairs and project leads. This work included the dissemination of seven publications and the organisation of five ALLEA-led events.
6.1 SOCIAL MEDIA

Social media remain among our most relied-upon channels to communicate with stakeholders. Social media is particularly useful for fast and wide dissemination of ALLEA statements, event announcements and publications, helping us reach a larger audience than we would through more traditional means. Publicising our events on our social media channels has been particularly useful since the beginning of the pandemic due to the increase in virtual events, as geographic location becomes less of a critical factor for participation.

Twitter

Twitter has become an indispensable platform for the communication and dissemination of ALLEA news. More and more scientific institutions, including many ALLEA Member Academies, have joined Twitter and use it on a regular basis to make public announcements and communicate recent activities. ALLEA’s number of followers on the platform continues to grow, with a current follower base of 3,574 – a 30% increase from the same period last year.

LinkedIn

LinkedIn serves as a supporting tool for dissemination of ALLEA’s communications content. Because of the nature of LinkedIn mainly as a platform for professional networking, our follower base there is more specialised, despite being smaller than on Twitter. A year after the launch of ALLEA’s LinkedIn channel, we have amassed more than 400 followers, and this number continues to grow steadily. The top industries of our followers on the platform include Research, Higher Education, Government Administration, Nonprofit Organisation Management, and Information Technology & Services.

YouTube

As more events take place virtually or in hybrid format, they can be recorded and shared online for the content to reach people who were unable to attend the event in real time, thereby allowing us to engage a larger audience. YouTube has become a useful platform for this purpose. Our most viewed content on YouTube is from the Academic Freedom and Intellectual Dissent Conference that ALLEA co-organised in June 2021, featuring a keynote speech from Professor Noam Chomsky, which has thus far amassed 19,183 views. As of March 2022, ALLEA’s YouTube channel has 317 subscribers and a total of 34,408 views.
6.2 PUBLICATIONS

One of ALLEA’s central outputs is scientific and policy publications. These products are the result of the interaction, deliberation, and research of its working groups and projects. In total, the Communications team led the design and dissemination of six ALLEA publications, and supported the promotion of several other projects’ publications, including SAPEA’s Evidence Review Report on Improving Cancer Screening in the European Union. It also worked on the dissemination of the Czech translation of the discussion paper ‘Fact or Fake? Tackling Science Disinformation’.

A new policy to reduce ALLEA’s emissions footprint in printing was established. Digital publications will be the default format for dissemination while printing will be limited to exceptional cases. In order to provide opportunities for the exposure of publications in physical events, a limited number of flyers and infographics materials will be produced. In cases where print copies are required, ALLEA will use recycled paper and carbon neutral printing.

6.3 WEBSITE AND DIGITAL SALON

The ALLEA website is the central online portal for the Federation’s communications, where we convey extended and interactive information about activities, events, projects, statements and publications. The number of users from March 2021 to March 2022 increased considerably compared to the corresponding period in 2020–2021, by more than 140%, mostly due to the increase in number of digital events, effective social media campaigns, and interest in the ALLEA Digital Salon content. The most visited sections continue to be the homepage and the portal dedicated to ‘The European Code of Conduct for Research Integrity’, followed by the recently started project ‘Fact or Fake? Tackling Science Disinformation’ since 2021, which is also one of the most researched by visitors via search engines, according to Google Analytics.

The Digital Salon continues to grow as a platform to “explore science one conversation at a time” by means of original interviews, analyses, and commentary from ALLEA experts, members, and friends.
In 2021, a total of 14 new entries were added, of which eight were interviews with scientists currently involved in ALLEA projects or whose research is directly linked to one of ALLEA’s areas of work. The experts interviewed in 2021 include award-winning scientist and science communicator, Dr John Cook (Monash University); Professor Kerstin Sahlin, Professor of Public Management in the Department of Business Studies (Uppsala University) and Chair of the new ALLEA Working Group on the European Research Area; and Professor Philip Kitcher, Science Philosopher and John Dewey Professor Emeritus of Philosophy (Columbia University, New York).

Additionally, on the occasion of the UN International Day of Women and Girls in Science on 11 February 2022, ALLEA launched the ‘Women in Science’ series as part of the Digital Salon. This series will highlight the work and careers of renowned women working in academia to celebrate their achievements while also shedding light on the specific systemic hurdles that women in science still face throughout their careers on account of their gender. The first entry in the series features interviews with renowned astrophysicist, Dame Jocelyn Bell Burnell (Oxford University) and interview with Dr Valerie Domcke, theoretical physicist at CERN and member of Die Junge Akademie, comparing the experiences of women from two different generations working in STEM.

6.4 EVENTS

As the restrictions due to the pandemic continue, most of the events (co)organised by ALLEA this past year have remained exclusively virtual events. A notable exception was the 2021 Madame de Staël Prize Lecture, which was the first fully-hybrid event organised by ALLEA to great success, hosted by the Swiss Embassy in Berlin with considerable onsite and online attendance. Other relevant events from this past year include:

- **Online Panel: Climate Sustainability in the Academic System – the Why and the How** (with KNAW and FEAM)
- **Climate Change in Human Rights Courts – The 2021 Madame de Staël Prize Lecture** (with Re-Imagine Europa and EU-SAGE)
- **Future of Science Communication Conference** (with Wissenschaft im Dialog)
• **Academic Freedom and Intellectual Dissent Conference** (with Scholars at Risk Ireland)
• **Webinar on International Health Data Transfer** (with FEAM and EASAC)
• **Workshop: Current Challenges for International Large-Scale Studies of Achievement** (with the National Academy of Educational Sciences of Ukraine)

### 6.5 NEWSLETTER

The ALLEA Newsletter is our regular report to Member Academies and external stakeholders to keep them informed about our publications, events, and activities. As of April 2022, eight issues have been published.

- **Issue #35: April 2022 | Support for Ukraine Scientists + Statement on Open Science and Innovation**
- **Issue #34: February 2022 | The Future of Science Communication Conference 2.0 | Brussels, 26 April 2022**
- **Issue #33: December 2021 | Season’s Greetings 2021**
- **Issue #32: November 2021 | Health Inequalities: New Methods, Better Insights? – Final Conference, 8 December 2021**
- **Issue #31: October 2021 | It Matters How We Open Knowledge – ALLEA Statement on Equity in Open Access**
- **Issue #30: September 2021 | The 2021 Madame de Staël Prize Lecture at the Berlin Science Week**
- **Issue #29: May 2021 | Academic Freedom and Intellectual Dissent Conference**
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