



EUROPEAN ACADEMY
of Sciences and Arts

2021
ANNUAL REPORT

ANNUAL REPORT 2021

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In memoriam

Siegbert Alber, Germany

Gudar Beqiraj, Albania

Karl Bornschein, Austria

Andras Bragyova, Hungary

Andreas Bsteh, Austria

Lev Bukovsky, Slowakei

Paul Crutzen, Germany

Nicolae Dabija, Moldawien

Hichem Djait, Tunesien

Jack David Dunitz, Scotland

Alfredo Manuel van Gelderen, Argentinien

Hans Küng, Switzerland

Vojislav Mitić, Serbia

Evangelos Moutsopoulos, Greece

Jörg Otto Pfleiderer, Austria

Alfred Radner, Austria

R.I.P.

VISION & MISSION



The European Academy of Sciences and Arts shall:

- + Identify and analyse European challenges
- + Provide advice to European institutions wherever the Academy has expertise
- + Develop a culture of collaboration and building bridges
- + Promote transnational / interdisciplinary research and produce significant outputs
- + Strengthen the role of scientific communities and European scholarship
- + Foster cooperation between research and industry
- + Solve complex issues identified as priority for the wellbeing of all Europeans

The objectives shall be achieved through:

- + Conferences, symposia, panel discussions
- + Publications
- + Cooperations with universities, scientific institutions and any other organization sharing similar objectives

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I. PREFACE



Klaus Mainzer, President

It is my pleasure to present to you the annual report 2021.

In 2021 we note with growing concern the renewed dissemination of a new string of the SARS-CoV-2 virus after 2020. The threat against public and individual health is imminent and calls for immediate, resolute and foresighted action. It seems that we must learn to live with a viral evolution of mutants in spite of improved vaccination. The political, economic, psychological, and cultural price is immense in Europe and world-wide. Therefore, a “statement on the escalating COVID-19-pandemic considering medical urgency – countering knowledge resistance – defending the rule of law – ensuring economic stability” was published online on the EASA website

and sent to our members to initiate a broad discussion in our classes. I thank the Deans of class I (humanities), class II (medicine), class V (social sciences, law and economics), and other authors of these classes for their prompt engagement in this initiative. “Mental health in the Corona Pandemic” were and will be considered in an international workshop. There was also a call for papers of class III (arts) concerning “the role and importance of art & culture in coping with the pandemic and its consequences”.

As a scientific academy, we are firmly committed to the principle of free and independent research and the quest for truth, which in turn establish a basis of knowledge for sound decision-making in open and democratic societies. But we also see a tendency to fake news and conspiracy theories in the public. In general, we observe an increasing climate of intolerance and aggressive attitude to opposite opinions and positions in European societies. Therefore, the Academy’s engagement in a tolerance award for 24 years was highly topical in 2021. Originally, with the award of „Tolerance rings“, the Academy wants to contribute to a tolerant and peaceful interaction between different religions. Nowadays, it does not only need tolerance between religions, but between all European citizens with their political and national diversity.

With respect to the pandemic, we were enforced in 2021 to organize our events, conferences, symposia, and meetings online or hybrid (online with restricted

physical presence). Nevertheless, the increasing use of digital tools enables more people worldwide to take part in our activities. And, actually in 2021, there were even rather more than less events and meetings of the Academy which can be considered on the Academy's website. The themes of the events ranged from technical-scientific workshops (e.g., „Trends of Quantum Computing in Europe“) with distinguished experts of technology and economy to interdisciplinary events between different classes (e.g., the lecture series „Science meets Arts“ or the symposium on the 200th Birthday of Dostojewski) with highly recommended scientists, literary people, composers, and artists. A highlight in this year was also the „European Science Festival“ with the European Science Council (ERC), EU commissioner, and national European academies and institutions which was introduced by a speech of the President of the European Academy of Sciences and Arts. The honorary President of EASA met the President of the Republic of Slovenia, Protector of the European Academy, to prepare an international conference on tolerance for 2022.

At the end I have to thank for the support of the Salzburg Presidential Office with Sofia Brunauer and Doris Klinda (with helpful support of Christine Greco in the background), the members of the Presidium and Senate, the engagement of our members and last but not least our funders.

Klaus Mainzer
President

II. GENERAL INFORMATION



Who we are

The European Academy of Sciences and Arts is a non-governmental, European association committed to promoting scientific and societal progress. Founded in 1990 as a learned society, our 2,000 members are leading scientists, artists, and practitioners of governance, who are dedicated to innovative research, interdisciplinary and transnational collaboration as well as the exchange and dissemination of knowledge. Academy members are elected for their outstanding achievements in science, arts, and governance.

A photograph of a desk with a notebook, a pair of red glasses, and a pen. The notebook has the word 'APPLICATION' written on it. A hand is holding the pen, ready to write.

How to become a member

Membership criteria

The primary criterion for membership is sustained academic excellence in a specific field. This does not necessarily apply to class III (Arts), class VII (World Religions). A candidate must in any case be able to think interdisciplinary and contribute to the mission and vision of the Academy. EASA wants to elect scientists, scholars and experts of international distinction, irrespective of nationality, gender, location or discipline.

Nomination and election process

A proposal for a new member can only be submitted by an existing member of the Academy, i.e. you cannot nominate yourself. If you want to nominate a candidate, please complete the official nomination form, sign it, and send it (with CV and publication list) via e-mail to presidential.office@euro-acad.eu.

Please note that nomination proposals must be submitted in electronic form and can be submitted at any time.

However, if your nominee should be considered for the next Festive Session, your nomination has to be submitted by October 1st the latest (no exceptions!). If the dossier is complete, it will be sent to the Dean (chairman) of the respective class and the respective member of the Nomination Committee, who both evaluate the qualifications of the nominee. After the evaluation process has been completed, the candidate and the evaluations will be presented to the members of the Senate, who decide about the membership. If a candidate is finally approved of and elected by the Senate, he/she will receive a “letter of election” by the President.

For further details of the nomination procedure, please, contact the presidential office (sofia.brunauer@euro-acad.eu).

Senate of the Academy

Presidency

President	Klaus Mainzer
Vice-President	Brigitte Harreß
Vice-President	Wolfgango Plastino
Vice-President	Ursula Schmidt-Erfurth
Treasurer	Karl Salm Reifferscheidt
Secretary	Kristin De Troyer
Honorary President	Felix Unger

Deans

Humanities	Andreas Önnarfors
Medicine	Dušan Šuput
Arts	Violeta Dinescu
Natural Sciences	Ioannis Liritzis
Social Sciences, Law and Economics	Kurt Schmoller
Technical and Environmental Sciences	Sergio Orlandi
World Religions	Mariano Delgado

Delegates

Austria	Meinhard Kneussl
Australia	Thomas Reuter
Belgium	Gunnar Riebs
Canada	Rajeshwar D. Tyagi
China	Chi Zhang
Croatia	Mario Plenković
Cyprus	Kostas Gouliamos

Czech Republic	Marek Hrubec
Denmark	Zhe Chen
Hungary	Attila Pók
Iran	Ali Kaveh
Italy	Fabrizio Vestroni
Lebanon	Youssef Fares
Moldova	Gheorghe Duca
North Macedonia	Radmil Polenaković
Poland	Lucjan Pawlowski
Romania	Marius-Ioan Piso
Russia	Mikhail Ugryumov
Serbia	Slobodan Grubačić
Slovakia	Štefan Luby
Slovenia	Ludvik Toplak
Spain	Carlos Gómez Lámbarri
Sweden	Yihai Cao
Switzerland	Bert Müller
Taiwan	Reuben Jih-Ru-Hwu
Turkey	Veton Hoxha
United Kingdom	Xin Shi
USA (West)	Bruce Janigian
USA (East)	Andrew Balas

Honorary Members

Protectors

H.M. King Philippe of Belgium
Milo Đukanović (Montenegro)

Borut Pahor (Slovenia)
Alexander Van der Bellen (Austria)

Former Protectors

Andris Bērziņš	Doris Leuthard
Jerzy Buzek	Tomislav Nikolić
Flavio Cotti	Karolos Papoulias
H.M. Juan Carlos de Borbón	Romano Prodi
Joseph Deiss	Jacques Santer
Heinz Fischer	Rudolf Schuster
Ivan Gašparovič	Danilo Türk
Gjorge Ivanov	Vaira Vīķe-Freiberga
Ivo Josipović	Franz Vranitzky
Milan Kučan	Valdis Zatlers
Norbert Lammert	

Honorary Senators

Tibor Asbóth	Andreas Penk
Dora Bakoyannis	Peter Ramsauer
Sali Berisha	Petra Roth
France Bernik	Jürgen Rüttgers
Karl Bornschein	Sigram Schindler
Erhard Busek	Rudolf Scholten
Franz Fischler	Leo A. Seufert
Alfred Gusenbauer	Michael Spindelegger
Erich Hödl	Dorothee Stapelfeldt
Erwin Huber	Klaus Stierstadt
Daisaku Ikeda	Erwin Teufel
Jean-Claude Juncker	Guy Verhofstadt
Viktor Klima	Christian Wulff
Stefan Luby	

Nobel Prize Laureates

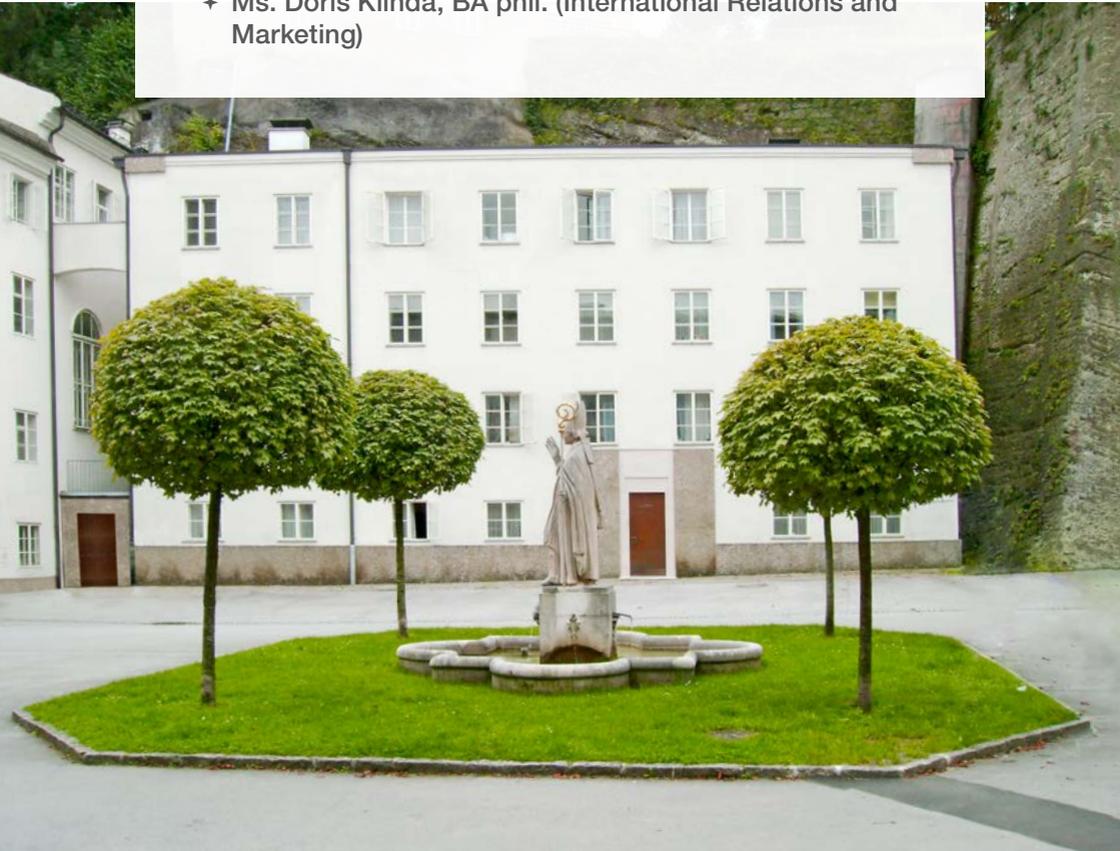
Physics, 2021	Klaus Hasselmann
Chemistry, 2020	Emanuelle Charpentier
Chemistry, 2016	Fraser Stoddart
Physiology or Medicine, 2014	May-Britt Moser

Physics, 2013	Peter Higgs
Physics, 2013	François Englert
Physiology or Medicine, 2013	Thomas Südhof
Physiology or Medicine, 2011	Jules A. Hoffmann
Physics, 2011	Brian P. Schmidt
Chemistry, 2011	Dan Shechtman
Physics, 2010	Andre Geim
Physics, 2010	Konstantin Novoselov
Medicine, 2008	Luc Montagnier
Medicine, 2008	Harald zur Hausen
Chemistry, 2007	Gerhard Ertl
Physics, 2007	Peter Grünberg
Economics, 2006	Edmund S. Phelps
Physics, 2005	Theodor W. Hänsch
Chemistry, 2004	Aaron Ciechanover
Chemistry, 2002	Kurt Wüthrich
Economics, 2002	Joseph E. Stiglitz
Chemistry, 2001	Ryoji Noyori
Medicine, 2001	Sir Paul Nurse
Physiology or Medicine, 2001	Tim Hunt
Physics, 2001	Wolfgang Ketterle
Physics, 2000	Zhores I. Alferov
Physiology or Medicine, 2000	Eric Kandel
Chemistry, 1995	Paul J. Crutzen
Physics, 1991	Erwin Neher
Peace, 1990	Mikhail Gorbatschow
Chemistry, 1988	Robert Huber
Physics, 1986	Gerd Binnig
Peace, 1985	Bernhard Lown
Medicine, 1981	Torsten N. Wiesel
Medicine, 1978	Werner Arber

Office Salzburg

The Academy is situated in St. Peter in the heart of Salzburg and is managed by

- + Ms. Sofia Brunauer (Membership Management)
- + Ms. Doris Klinda, BA phil. (International Relations and Marketing)



Office in Salzburg, St. Peter Bezirk 10, © European Academy of Sciences and Arts

Foundations

Austrian Foundation

The European Academy of Sciences and Arts holds a foundation in Austria entitled Academia Scientiarum et Artium Europaea Privatstiftung. It was established on 24th of November 2004 in Vienna. The foundation aims at raising additional funds for the European Academy of Sciences and Arts.

Executive Board

Unger Felix, Kickingler Roland,
Salm-Reifferscheidt Karl

Supervisory Board

Manstein Hans-Jörg, Raidl Claus, Schmid Hans, Thun-Hohenstein Christoph, Von Schöning Wichard, Groeger Herbert, Conrad Michael

Academia Scientiarum et Artium Europaea Privatstiftung

St. Peter Bezirk 10
5020 Salzburg Austria

III. EVENTS 2021

Those conference-contributions that were recorded have a video link attached.

January	<p>Alexander von Humboldt Workshop „Trends of Quantum Computing & Quantum Logic, II“</p> <p>Klaus Mainzer, January 14 (with Technical University of Berlin and University of Cagliari)</p>
February	<p>acatech (German National Society of Science and Technology)</p> <p>Speech: Klaus Mainzer, February 8</p>
March	<p>9th International Conference of Alma Mater Europea, EASA, Maribor, March 11</p>
April	<p>Religionen und Identitäten in Europa – Spannungsfelder und Wechselwirkungen</p> <p>Interdisziplinäre Tagung der Universitäten Fribourg und Salzburg, Mariano Delgado (Dean Class VII), EASA, April 16–17</p>
May	<p>14th Baska GNSS Conference: PNT Technologies, Techniques and Applications</p> <p>May 8-12, https://rin.org.uk/mpage/BaskaOrganisers</p> <p>Anthropocene and Climate Change</p> <p>In Memory of Paul Crutzen (1933–2021)</p> <p>Member of the EASA, May 28, https://youtu.be/ql8b-jinmMA</p> <p>Neuroscience–Nonlinear Complex Systems</p> <p>13th Summer School, Günter Schiepek (Class II) (Paracelsus Medical University), May 30</p>

June	<p>International Scientific Conference</p> <p>Dedicated to the 60th Anniversary of the Academy of Sciences of Moldova, Speech: Klaus Mainzer, June 10</p> <p>Circular Economy</p> <p>Online Symposium, EASA, Technical University Munich, University Leipzig, June 11</p> <p>Trends of Quantum Computing, Challenges of a Revolutionary Technology for Europe</p> <p>Workshop with Giulio Casati (Class IV), Marco Robnik (Class IV) and Klaus Mainzer, June 18, https://youtu.be/rW3tlZkXRng</p> <p>Archaeometry Colloquium</p> <p>Ioannis Liritzis (Dean Class IV), June 25</p>
July	<p>Widerstand im Nationalsozialismus. Eine Rede zum 100. Geburtstag von Hans Leipelt (1921–1945)</p> <p>Peter Fischer-Appelt (Class VII), July 18, https://euro-acad.eu/events?id=96</p>
September	<p>phil. Cologne</p> <p>Internationales Festival der Philosophie, September 2– 8, Speech: Klaus Mainzer</p> <p>SPR Symposium, Human Change Dynamics</p> <p>Society for Psychotherapy Research (with EASA), September 11</p> <p>ICSC 2021</p> <p>8th International Conference on Spatial Cognition, Sapienza Università di Roma, Marta Olivetti (Class II), September 13–17</p> <p>Autumn School „Proof and Computation“</p> <p>(with Ludwig Maximilians University Munich and University of Verona), Klaus Mainzer, September 13–19</p>

2nd International Conference on Global Issues of Environmental and Culture

Ioannis Liritzis (Dean Class IV), University of Aegean and Miao Changhong, Henan Univeristy, China, September 17–19

Pandemic Perspectives: Reflections on the Consequences of COVID-19

Andreas Önnarfors (Dean, Class I), September 18:
<https://www.youtube.com/watch?v=U5b2VxUO4O8>

General Assembly of the European Academy of Sciences and Arts

Salzburg, September 24

Informatik & Nachhaltigkeit – Computer Science & Sustainability

Jahrestagung der Deutschen Gesellschaft für Informatik/Online Workshop (with EASA), September 27 – October 1

October

ECO Pole Conference 2021

Hybrid Conference, Maria Waclawek (Class IV), October 13 – October 16

11th DAC – Danube Academies Conference 2021

Bulgarian Academy of Sciences and EASA, Zoom Conference, October 22,
<https://youtu.be/TUMNhLXLfnA>

November

XX. International Scientific Conference

Innovation Dynamics and Management in the XXIst Century, St. Petersburg University, November 24, 2021, Zoom Conference

Verleihung der Toleranzringe und des Schulpreises „Toleranz macht Schule“

EASA and zfl (Zentrum für LehrerInnenbildung), Technische Hochschule Köln, November 18, 2021, Video-Stream: <https://youtu.be/iMCrb0ObOOY>

Symposium zum 200. Geburtstag von F.M. Dostoevskij

EASA, Hybrid Symposium, Vice-President Birgit Harreß with Andreas Önnersfors (Class I) and Violeta Dinescu (Class III), November 13, 2021,

<https://euro-acad.eu/multimedia?id=8>

The European Science Festival

Slovenian Science Foundation, Zoom Conference, November 9 – November 11, Speech: Klaus Mainzer,

<https://youtu.be/UsD7jhTtcoE>

From Complex Systems Dynamics to AI

University of Amsterdam/Institute for Advanced Studies/Center of Urban Mental Health, November 24, 2021, Zoom Conference

Colloquium Science Meets Art

Ioannis Liriztis (Dean Class IV) and Violeta Dinescu (Dean Class III), October 1, 2021 – January 2022,

Continuation planned Summer Semester 2022, Zoom Conference, Videos: <https://euro-acad.eu/events?id=91>

General Assembly 2021, l.t.r: Zoran Tomić, Ludvik Toplak, Klaus Mainzer, Mario Plenković, Erich Hödl



IV. STATEMENT ON THE ESCALATING COVID-19-PANDEMIC

Considering medical urgency – countering knowledge resistance – defending the rule of law – ensuring economic stability

Preamble

The European Academy of Sciences and Arts as one of the bodies coordinating scientific work across disciplines in Europe and beyond notes with growing concern the renewed dissemination of a new string of the SARS-CoV-2 virus. The threat against public and individual health is imminent and calls for immediate, resolute and foresighted action. At the same time there is a need to assess the overall impact on the global burden of disease, which includes diseases not treated as a collateral effect of any countermeasures in public health.

Over the last 24 months, our knowledge of the viral disease and how to counter it medically has increased considerably. Nevertheless, we also see a tendency that the increase in scientific knowledge has been accompanied by growing knowledge resistance. In the light of evident disregard of scientific authority, we are firmly committed to the principle of free and independent research and the quest for truth, which in turn establish a basis of knowledge for sound decision-making in open and democratic societies. However, we also note that the pandemic has occasioned multiple societal trade-offs between different fundamental rights as enshrined in the Charter of Fundamental Rights of the EU (2009). Principles of proportionality, accountability and fair balance must be upheld in a state of emergency and legally examined in the future. Yet, a number of actors are vocally engaged in extrajudicial claims of conflict settlement

undermining legal security. The mitigation between the sound management of the pandemic and its economic impact is yet another area of grave concern. While European societies might move into a possible third year of restrictions, the consequences for national and global economies are potentially devastating and call for increased stabilizing efforts.

We believe that a sustainable way forward for European societies is to consider the medical urgency of the pandemic while uncompromisingly countering knowledge resistance, defending the rule of law and ensuring economic stability.

Part 1 – the medical urgency of the SARS-CoV-2 virus in the light of the global burden of disease

Urgent situation

The SARS-Cov-2 virus is constantly changing as the global population is still naïve to the virus, and the virus quickly spreads and mutates. This situation results from the fact that vaccination is limited mainly to developed countries, and even there, vaccination is locally insufficient. Until now, we were relatively lucky as the mutations of the virus were not more lethal, although the new variants were more contagious than previous versions. However, we cannot predict the characteristics of the coming variants and, although new medicines have been approved for the treatment of the disease, the future is uncertain.

The global burden of disease

According to ‘Our World in Data’ (<https://www.worldometers.info/coronavirus/>) and Johns Hopkins (<https://coronavirus.jhu.edu/map.html>) there have been over 267 million cases of confirmed COVID-19 and over 5 million deaths caused by COVID-19 infection worldwide. In Europe alone, over 76 millions of COVID-19 patients resulted in almost 1.5 million deaths.

The current pandemic exhausted healthcare professionals and whole health care systems, leaving little room for treatment of other life-threatening diseases.

The impact of all public health measures on diseases not treated

Measures taken by countries to prevent spreading COVID-19 have, in some cases, reduced the incidence of respiratory infections and reduced the number of deaths caused by those diseases. However, at the same time, those measures inadmissibly delayed diagnostics and treatment of other medical conditions due to restricted access to medical care. As a result, we are facing an unacceptable increase in the number of excess deaths (JAMA, 2020, 324:510-513) and unnecessary worsening of health conditions of the whole population. Decreased access for medical treatment and decreased search for medical help results in millions of excess deaths weekly worldwide.

The worrying impact on mental health

COVID-19 pandemic led to a stark rise in depressive and anxiety disorders globally as assessed in 204 countries (COVID-19 Mental Disorders Collaborators, 2021), with an additional 53.2 million and 76.2 million cases of anxiety and major depressive disorders in 2020, respectively. Of note, the increase in the prevalence of anxiety disorders and depression was associated with both the increasing COVID-19 infection rates and decreasing human mobility. Globally, anxiety disorders prevalence was strongly associated with increased infection rates, while depression prevalence was more associated with decreasing human mobility.

Part 2 – the adverse impact of knowledge resistance to decision-making and societal cohesion

The ‘infodemic’

The pandemic has, according to WHO (2021) been accompanied by an ‘in-

infodemic': a viral spread of misleading information has invaded societal discourse. Phenomena like disinformation (the intentional spread of false information), misinformation (the unintended dissemination of false information) and conspiracy theories (meaning-making narratives, particularly in times of crisis) expressed by state and non-state actors alike have blurred efforts to understand the SARS-CoV-2 virus and its dangers to human society properly.

Six contested areas

This relates in particular to six specific and contested areas: 1) the origin of the virus, 2) its dissemination, 3) its mortality and morbidity (and related statistics), 4) countermeasures in public health and politics, 5) vaccination against COVID-19 and 6) general causal explanations of the outbreak of the pandemic and its management (MSB, 2021). The general public has been exposed to a host of conflicting analyses which also have been connected to various agendas in global as much as national politics.

Knowledge resistance as driver of radicalization

To a significant degree, the infodemic is characterized by an increasing knowledge resistance, defined as “the tendency not to accept available knowledge” (Wikforss, 2018) and in particular the denial of scientific knowledge. Over the last two years, it has been possible to witness how knowledge resistance has mobilized to protests against scientifically motivated countermeasures designed to contain and end the pandemic. Scientific expert knowledge has been framed as a tool in the hand of elite manipulation of the world population. Science has been equated with any other opinion. In this heated climate, which repeatedly has driven radicalization into violent extremism, the integrity of science as the basis of sound decision-making has to be restored.

The restoration of trust in science

Trust in science needs to be restored in order to contribute to societal cohesion. To achieve these objectives, underlying cognitive, psychological and existential dimensions of knowledge resistance have to be taken into account. Not only need scientists defend the integrity of their standards (a proper understanding of scientific theory and method), but also appreciate how generalized fears and anxieties are drivers of conspiratorial science denial. The situation calls for a threefold strategy in which the promotion of standards of source criticism and critical thinking are combined with a deeper psychological understanding of emotional and existential factors behind knowledge resistance. Any attempts to counter the infodemic have to take these three dimensions into account: the epistemological level (knowledge), the emotional level (psychology) and the existential level (values and world views). From a cognitive, psychological, and sociological point of view we have to understand the mechanisms driving radicalization, extremism and splitting societies. There is affirmative information processing, affective-driven cognition (e.g., perception, sense-making, memory, decision making), or reactance to perceived restrictions.

Science as learning system

From an epistemological point of view, we have to understand and to communicate scientific procedures to the public: If we take all the known contributors and mechanisms of failures and incorrect decisions seriously, e.g., in science, technology, or policy, we have to concede that also science is not immune against this. Especially at the moment, all protagonists seem to act under urgency for decisions and acting. It could substantially contribute to the reliability and authenticity of science to explore and communicate the mechanisms of her own pitfalls, biases and limitations, as we proceed it as normal in every journal review and scientific dispute. Beyond this we will increase the public trust in science if we concede the complexity and multi-perspectivity of science as a learning system.

Part 3 – the need to defend the rule of law during states of emergency

State of emergency

A global pandemic such as occasioned by the SARS-CoV-2 virus constitutes without doubt a state of emergency in the exercise of power. As much as citizens expect governance to avert the negative consequences of a pandemic, fundamental rights and the rule of law must be upheld as fundamentals of accountable power. It is therefore appropriate to ask which fundamental rights that have been affected by the COVID-19-pandemic and how they are balanced fairly against each other. However, we have also witnessed an increase of pseudo-legal arguments raised by different actors with the aim to undermine legitimate public action.

Fundamental rights

On EU-level, member states have adopted specific measures, which in certain cases also have restricted fundamental rights (Trstenjak, 2020). In practice, (public) health has almost always been applied as reason or legitimate aim for a limitation to all the fundamental rights. There were restrictions based on considerations for public health such as: restriction of free movement, infringements of protection of data protection, and restriction of free economic activities and enterprise (e.g. compulsory closure of shops). On the EU-level the term ‘fundamental rights’ denotes both human and civil rights. These are enshrined in the Charter of Fundamental Rights of the EU with 54 articles (2009), part of primary law of the union and considered on pair with constitutional legislation.

Proportionality of limitations

Fundamental rights are not absolute and can be subjected to limitations if these are provided by law (both on EU and membership state level) and subject to the principle of proportionality, for instance how they affect

other freedoms. Important is also the principle of temporal limitation, which is especially important for the limitations introduced due to the corona crisis. Proportionality as a condition for limitations of fundamental rights under Art. 52(1) of the Charter is an extremely important criterion of assessment which entails three elements: the appropriateness (in German: die Geeignetheit), necessity (in German: die Erforderlichkeit) and reasonableness (in German: die Angemessenheit) of the adopted measures.

The principle of fair balance

During the Corona-crisis the key issue has been linked to the question when and under what conditions fundamental rights could be limited and what is the fair balance in a case of collision of several rights. Articles affected by collision in the Charter are most obviously: Health care (Art. 35), Right to liberty and security (Art. 6), Protection of personal data (Art. 8), Freedom of assembly and of association (Art. 12), Equality before the law (Art. 20), Consumer protection (Art. 38) and Respect for private and family life (Art. 7). Other rights have also frequently been referenced in the discourse, such as the right to life (Art. 2) or the right to human dignity (Art. 1). Moreover, prohibition of discrimination (non-discrimination) (Art. 21,1), freedom of religion (Art. 10), freedom to conduct a business (Art. 16), rights to property (Art. 17) or right to judicial remedy (Art. 47) have been affected. Much tension was caused by provisions about freedom of expression and information (Art. 11).

Future legal remedies

It remains to be seen whether all limitations of fundamental rights were justified and whether the limitations were proportionate. The courts will have the final say on these questions. In many future legal proceedings national courts will have to assess possible interferences with fundamental rights under national law, taking into law. At present, it is not possible to give definitive answers as to which rights have been justifiably or unjustifiably limited. The answers will depend on the circumstances of every situation and the facts of the case. For this a number of legal remedies both at national and union level are available. Although the highest possible level of



protection of fundamental rights is to be advocated for in the EU, it should also be emphasized that in some cases the protection of fundamental rights is guaranteed in such a way that interference with certain other fundamental rights is needed in order to ensure the protection of other rights considered as more important in a given time. However, such limitations on fundamental rights must be imposed under strictly defined conditions and provided by the highest legal acts, i.e. in national constitutions and in the Charter at the EU level.

European Convention on Human Rights beyond the borders of EU laws

But fundamental rights are not only restricted to the EU Charter of Fundamental Rights (2000 and 2009). However, according to its own wording (Art 51), it is only applicable as far as the application of EU law is concerned; moreover, it is limited to the EU. The EU is certainly a central project for Europe, but Europe clearly goes beyond the borders of the EU. Therefore, it would be important to also mention the European Convention on Human Rights (ECHR 1950) and its additional protocols adopted within the framework of the Council of Europe and the fundamental rights enshrined therein. The ECHR has arguably had more influence on the enforcement of fundamental rights over the past 70 years than the relatively recent EU Charter of Fundamental Rights. It also applies independently of the application of EU law and far beyond the borders of the EU. The Council of Europe also includes, for example, Great Britain, Norway, Switzerland, all Balkan states, Turkey, Ukraine, Russia and the Caucasus states.

Undermining of legal security

An unfortunate side-aspect of the contested nature of limitations of fundamental rights during the COVID-19-pandemic has been the ‘juridification’ of arguments in the societal debate. Different actors have claimed a prerogative of interpretation of legal texts or resorted to pseudo-legal

arguments in order to undermine the legitimacy of public measures of crisis management. These attempts to undermine legal security are not constructive towards the defense of the overall rule of law.

Part 4 – the need to ensure economic stability in times of crisis

How is the (global) economy affected by the pandemic?

Many sectors of the economy have suffered losses due to the pandemic. Some measures, such as short-time allowances or government grants, have cushioned these economic losses, which seldom affected the labor market. In total, however, the losses cannot be fully compensated. A decline in corporate profits and the simultaneous support measures by the state have increased government debt by far.

What are the immediate consequences?

Consequences are being discussed controversially for instance in Germany. From the perspective of an economic mainstream, economically burdened companies should quickly find their way back to strength and competitiveness. Public budgets would also benefit from this by increasing tax revenues again. At the same time, politicians, scientists but especially representatives of environmental organizations have repeatedly stated: we cannot do our 'housekeeping' after COVID-19 the way we have done so far. However, there is often a lack of practical and realistic alternatives.

How can economic stability be achieved?

We need a new understanding of stability and equilibrium based on sustainability economics. For example: climate change, biodiversity loss but also inequality must be managed within the framework of economic activity. The

available publications and reports also provide examples of how ‘sustainability concepts’ can be implemented and what obstacles need to be overcome. A key demand, primarily to politicians but also to other social actors such as scientists, consumers and producers, is that a coherent sustainability concept be developed and implemented as part of a consistent process. After COVID-19, we need a so-called ‘economic stimulus package’ to secure our ecology, economy and society. Let us develop and implement a ‘sustainable economic stimulus package’. This would promote the dynamics of sustainable development.

Recommendations

In the light of the state of the art related to the SARS-CoV-2-pandemic as a global crisis, the EASA calls for action in the following four areas:

(I) Considering medical urgency

- **Vaccination is the only action that can control the severity of the pandemic worldwide:** That is not only an urgent request for European countries. Poorer countries (e.g. Africa) must be supported with vaccination to slow down a permanent evolution of new mutants worldwide.
- **Medical care of other diseases must not be restricted by Corona patients:** When introducing restrictive measures to control pandemics, take care not to limit access to healthcare for other diseases.
- **Foster good science-based education in health sciences to improve the situation of medical doctors and other healthcare professional:** Evidence-based medicine and science-based education in health sciences must be the basis of medical decisions.
- **With respect to mental health, the effects of pandemic and measures against it must be evaluated over the whole life span:** The

side and long-term effects of the pandemic and of all the measures against it (e.g., social distancing, closing schools, distance learning, lockdown of branches of the economy) have to be evaluated for mental health developments of people over the whole life span (from young children to people well advanced in years) including families and social networks.

(II) Countering knowledge resistance

- **Science is the way out of the infodemic:** Trust in science as the basis of sustainable societal decision-making must be restored through increased confidence-building efforts such as transparent communication of science as a learning system.
- **Knowledge resistance must be understood properly:** The mechanisms behind dis- and misinformation and conspiracy beliefs as a growing societal challenge must be analyzed without prejudice and stigmatization.
- **Countering the infodemic requires a combined approach:** Epistemological, emotional and existential aspects of knowledge resistance must be addressed in shared collaboration and responsibility between public and private actors.

(III) Defending the rule of law

- **Rule of law in a state of emergency must be upheld:** Despite the severity of the situation, the rule of law must not be compromised and limitations of fundamental rights (such as enshrined in the EU Charter) follow the principles of proportionality, accountability and fair balance.
- **Legal remedy against limitations of fundamental rights must be sought within the legal system:** No other legal authority than national courts or the courts of the EU must determine the legality of public measures taken during the COVID-19 pandemic.
- **Extrajudicial claims of conflict settlement must be rejected:** Despite the gravity of the ongoing crisis, claims to establish systems of parallel justice and extrajudicial prerogative interpretation of legal norms must be rejected.

(IV) Ensuring economic stability

- **Economic stability needs ecological and social stability:** Representatives of politics, business and science must recognize that there can be no long-term economic stability without ecological and social stability.
- **Request for sustainability strategies:** The Federal Government (of Germany) has committed itself in the National Sustainability Strategy that sustainable development should shape policy-making. There is still a lot of catching up to do here also on a Europe-wide level.
- **Reduction of lobbying:** Sustainable development as a policy-shaping concept requires a significant reduction in lobbying.

Summary

What we need is a scientifically based full evaluation of the pandemic, the measures and the diversity of effects. From a complexity science perspective, it is a multifactorial network with many (nonlinear) feedback loops which has to be developed with support of experts from many disciplines (and actors outside academia). Like climate models we should develop a complex bio-psycho-social model of all concerned processes of the self-organization of (mental) health all over the world. This is not only about epidemiology but about all important factors of health. A closer look at this will reveal that most scientific disciplines have to be included.

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V. DANUBE ACADEMIES CONFERENCE

The Danube Academies Conference is a forum for all national Academies of the Danube region and focuses on scientific developments in this area. It is a platform for the exchange between the national academies from Central and Eastern Europe.

The 11th DAC conference was organised by the European Academy of Sciences and Arts, and this year hosted by the Bulgarian Academy of Sciences.

The topic of the Conference was „Climate change and climate control“.

Scientists from all Academies and universities in the Danube Region, industry representatives and other stakeholders participated in the Conference.

Program: [DAC Book of Abstracts](#)



**DANUBE
ACADEMIES
CONFERENCE**



VI. TOLERANCE PROJECT

Tolerance Awards 2021 – a sign of an open, pluralistic society

At this year's award ceremony on 18 November, the European Academy of Sciences and Arts honoured the Rabbi and Rector of the Abraham Geiger College and Professor of Modern Jewish Philosophy of Religion **Walter Homolka**, **Andrea Riccardi**, founder of the Catholic Community of Sant'Egidio and **Haxhi Dede Baba Edmond Brahimaj**, head of the Bektashi World Headquarter in Tirana.

Stefan Herzig, President of the Cologne University of Technology, emphasised in his opening speech that „diversity and openness are among the core values of the TH Köln. That is why we were very happy to accept the offer to host the Tolerance Award this year - the year of our 50th anniversary. With the prize, we are jointly setting an example for an open, plural society, the urgency of which continues unabated in 2021.“

The President of the European Academy of Sciences and Arts, **Klaus Mainzer**, emphasised in his welcoming speech *Toleranzringe (Einführung Köln 2021)*: „In our society we feel an increasing climate of intolerance and aggressive attitude. With this award, which has now been



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F.l.t.r: Klaus Reeder for Andrea Riccardi, Hadji Dede Baba Edmond Brahimaj, Walter Homolka
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in existence for 24 years, we want to contribute to a tolerant and peaceful interaction between people. This lifelong practice in tolerance must already begin in everyday educational and training practice.“

Henriette Reker, Lord Mayor of the City of Cologne, congratulated the award winners in her speech „This award is due to people who are committed to respect and cohesion in our society in a special way - something that makes them role models for all of us. Because respect, acceptance and tolerance - they are the basis for the success of our society - our diverse society, which has become increasingly diverse through immigration and ever new ways of life.“ After the laudations to the winners of the tolerance rings by the President of EASA, Klaus Mainzer, there was a panel discussion moderated by Joachim Frank - Chief Correspondent DuMont (Kölner Stadt-Anzeiger).

Laudations Klaus Mainzer: [Toleranzringe \(2021 Riccardi\)](#); [Toleranzringe \(2021 Baba Mondj\)](#); [Toleranzringe \(2021 Homolka\)](#)



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In addition, the European Academy of Sciences and Arts and the University of Cologne awarded a prize for tolerance to schools from the Cologne area. The Rosenmaarschule (Cologne primary school), the Peter-Jordan-Schule (special school of the city of Hückelhoven) and the Offene Schule Köln (comprehensive school). The schools were nominated by student teachers at the University of Cologne and selected by an expert committee of the University of Cologne and the Cologne Board of Trustees for the award of the Tolerance Rings of the European Academy of Sciences and Arts. The members of the Board of Trustees include Henriette Reker, Mayor of Cologne, Axel Freimuth, Rector of the University of Cologne, Hedwig Neven DuMont, Chairwoman of „wir helfen“, Peter Wollseifer, President of the Cologne Chamber of Crafts, Lale Akgün and Bettina Böttinger.

The ceremony was musically accompanied by the Russian pianist Sergej Markin.

We would like to thank our sponsors **Deutsche Bank** and the association **Wir helfen**.



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VII. REPORTS

Topic Network of Expert Groups

In order to sharpen the profile of our Academy, the Senate decided to start with a topic network of expert groups such as

- Digitalization, AI, and their Societal Impact (coordinator: President)
- Research, Innovation, and Education (coordinator: Dean of Class IV)
- Medicine and Life Science (coordinator: Dean of Class II)
- Environment, Climate, and Energy (coordinator: Dean of Class VI)

The goal of this topic network is to interrelate the different research interests in our Academy, but also to produce white papers, created by members of the EASA in collaboration with European organisations and institutions, which can draw attention to the work done in the Academy and the intellectual standing of its members and result in societal impact of the Academy. The White Papers will be certified by Presidium and Senate and published in the new Journal of EASA starting online in 2022.



Image: © iStock_olrat

European Science Festival

The European Union (EU) annually organizes the „European Science Festival“ under the patronage of the changing national presidencies of European countries. In 2021, the European Science Festival was organized by the Slovenian Science Foundation. The speeches and events of the program are always contributed by the European Research Council (ERC), national European academies and research institutions, leading European scientists, artists, and representatives of the media. In 2021, the president of the European Academy of Sciences and Arts had the honor of the opening speech about „The Contribution of science to the De-

velopment of European Culture and Civilization“ (<https://youtu.be/UsD7jhttc0E>). The programm consisted of three main parts on three days (<https://euro-acad.eu/events?id=107>), starting with „The Role of Science in Europe today“, then „Perception in Science, Technology and Innovation among Europeans“, and finally „Scientific Content in the Media“. With respect to the pandemics, the program was distributed on life stream with great European participation.

Workshop Trends of Quantum Computing – Challenges of a Revolutionary Technology for Europe

Zoom Conference Salzburg 18th June 2021

Since many years, the quantum world has already arrived in our everyday life. Transistors, diodes, and laser are well known devices of everyday technology. After this first generation of quantum technology, we are living in the 2nd generation which applies principles of quantum mechanics (e.g. superposition, entanglement) in a targeted manner. Examples are first prototypes of quantum computers, classical supercomputer with quantum simulation, quantum communication, and quantum cryptography. There are already hints that we are in the transition to a 3rd generation of quantum technology with, e.g., universal quantum computers, quantum Internet, and quantum artificial intelligence. Obviously, quantum computing does not only concern deep epistemic foundations of nature, but also revolutionary impact on economy and society. Therefore, the trends of quantum computing in Europe and worldwide are a challenge for the European Academy of Sciences and Arts which were considered in a workshop bridging foundational research as well as applied engineering and societal impact.



Image: sunancus / stock.adobe.com

Trends of Quantum Computing – Programme

10:00-10:30 a.m.

Greetings and Introduction (Mainzer/ president)

Chair: Marko Robnik (Class IV)

10:30-11:00 a.m.

From Quantum Paradoxes to Quantum Information

(Anton Zeilinger / Class IV)

11:00-11:30 a.m.

From Quantum Information to Quantum Computer

(Rainer Blatt / Innsbruck)

11:30-12:00 a.m.

Quantum Computer with Superconductors

(Frank K. Wilhelm-Mauch / Saarbrücken)

12:00-12:30 p.m.

Quantum Computer with Ions

(Ferdinand Schmidt-Kaler / Mainz)

12:30-01:00 a.m.

Lunch Break

(Giulio Casati / Class IV)

01:00-01:30 p.m.

**From Quantum Foundations to Applications in
Quantum Cryptography and back**

(Nicolas Gisin / Geneva)

01:30-02:00 p.m.

Quantum AI and Quantum Machine Learning

(Christian Bauchhage / Fraunhofer St. Augustin)

02:00-02:30 p.m.

Europe's Challenge Digital Sovereignty:

Germany's Roadmap Quantum Computer

(Henning Kagermann / acatech Berlin)

02:30 p.m.

Final words

(Klaus Mainzer/president)

<https://youtu.be/rW3tlZkXRng>

Symposium at the Occasion of the 200th Birthday of F.M. Dostoevskij

Birgit Harreß, Vice-President of EASA with Andreas Önnerfors (Class I) and Violeta Dinescu (Class III) as organiser of this symposium, gave an intensive insight into the life's work of this Russian writer, who had a special influence on German cultural and intellectual life through his work and his person, under the title „The truth will set you free“ with a series of contributions from a panel of experts on F. M. Dostoevsky's literary work.



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Symposium – Programme

09:30 a.m.

Greeting and Introduction

Klaus Mainzer (President of the EASA)

Introduction to the Symposium: Birgit Harreß (Vice-President of the EASA)

10:00 a.m.

Andreas Önnerfors (Dean, Class I: Humanities)

„The Cellar Hole of Conspiracy Theories: Notes on the Crisis of Knowledge“ (<https://youtu.be/2VU-5T240GM>), Discussion

11:30 a.m.

Birgit Harreß (Vice President of the EASA)

„The Truth Will Set You Free“. On the topicality of Dostoevsky's last novel
The Brothers Karamazov (1879/80), Discussion

Lunch break

02:30 p.m.

Violeta Dinescu (Dean, Class III: Arts)

„Let's go to Grušen'ka!": The Mystery of the Female Soul in
Dostoevsky's Novel „The Brothers Karamazov“ – A musical
programme for cello con voce interpreted by Katharina Deserno
(Frankfurt University of Music and Performing Arts)

(<https://www.youtube.com/watch?v=3XKjNrU8fkw>), Discussion

04:00 p.m.

Christoph Garstka (Chairman of the German Dostoevsky
Society)

„Between Despotism and Freedom. Performances of the
Grand Inquisitor in Literature and Art“

(<https://youtu.be/6oLTaYeBLa0>)

VIII. NEW MEMBERS

elected by the senate 2021



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