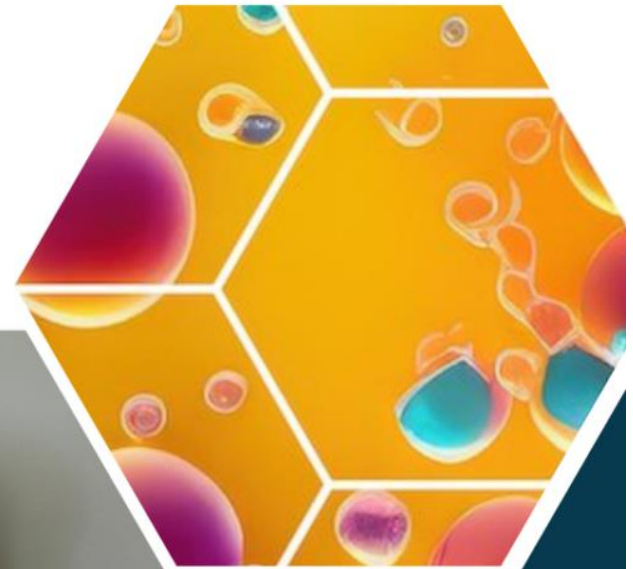


# The European Scientific Advice Mechanism: how evidence informs policy

Ole H Petersen  
&  
Louise Edwards

Cardiff University

**Scientific  
Advice  
Mechanism**  
to the European Commission



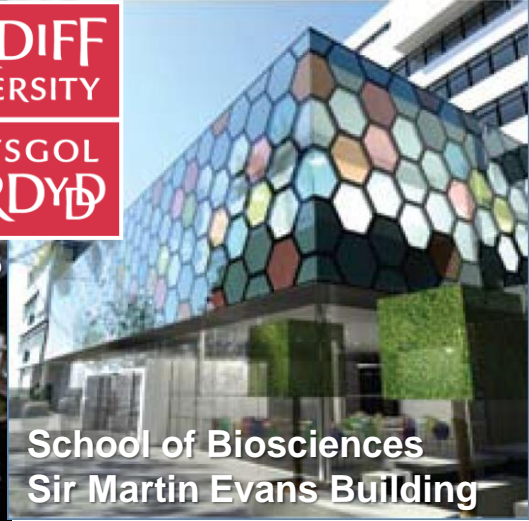
Platfform yr  
Amgylchedd Cymru

Environment  
Platform Wales



CARDIFF  
UNIVERSITY  
PRIFYSGOL  
CAERDYDD

1883



School of Biosciences  
Sir Martin Evans Building



ACADEMIA EUROPAEA  
CARDIFF KNOWLEDGE HUB

**Ole H Petersen CBE FRS**

**Science Advice: A Personal Perspective**



House of Commons

Education and Skills Committee

Wednesday 16 May 2007

**Professor Ian Diamond**, Chair of Research Councils UK and Chief Executive of the Economic and Social Research Council (ESRC) and **Professor Ole H Petersen**, previous Vice President of the Royal Society and MRC Professor of Physiology, The University of Liverpool <https://publications.parliament.uk/pa/cm200607/cmselect/cmmeduski/285/285ii.pdf>



Ev 227

**Q722 Chairman:** You started off by saying there was not enough money going into research. Fiona Mactaggart said to you that you want to make sure that as much of the resource gets through to the researcher rather than to the administration of the process.

**Professor Petersen:** We have to understand that these figures we are now talking about are notional. This is not money that is taken out of the Research Councils' budget. These are figures based on assessing how much time people spend on these things, so it is a bit different. The real problem is not this costing. The real problem is that there is not enough money in the system. There are a lot of good researchers who are not getting the funding that they need and therefore cannot do the job that they are hired to do. That is the real problem in the system, the insufficient amount of money that is in the Research Council system and also in the whole

university system. We have to emphasise here that this is where we are at this moment in time in a worse situation than many other competitor countries.

**Q723 Chairman:** Would you double it? Treble it? How much more do we need?

**Professor Petersen:** In my particular area where roughly speaking four out of five applications are being rejected, I would suggest that there is a need for a doubling of it in order to have a system that will work properly and allow the people who are internationally competitive to work properly. This has something to do with the future sustainability of research. I do not think the UK's present position is sustainable in the present situation. I think we will be overtaken by other countries in the Far East and many of our European competitors, if you take into account their size, are doing quite a bit better.

## Policy for Science

Carwyn Jones  
First Minister, Wales

John Harris  
Chair, SACW



**Inaugural Meeting of the Science Advisory Council for Wales (SACW) 2010**

*Members:* Paul Allen, Huw Beynon, Simon Bradley, Kevin Bygate, Bridget Emmett, Sir Martin Evans FRS, Chris Gaskell CBE, Sian Hope OBE, Jim Houlihan, David John Jeans CBE, Tavi Murray CBE, Ole H Petersen CBE FRS, Chris Pollock CBE, Wendy Sadler MBE, Sir John Meurig Thomas FRS, Ken Walters FRS, Sir Robin Williams CBE FRS



Edwina Hart MBE  
(Minister for  
Business,  
Enterprise,  
Technology &  
Science, Welsh  
Government,  
2011-2016)

## Ser Cymru (Star Wales)

This programme (£100 million investment from Welsh Government, HEFCW, EC Horizon 2020) has supported:

- 12 research chairs
- 11 rising stars
- 115 research fellowships
- 340 PhD studentships

The programme has generated more than £180 million in research grant income. It has increased Wales' research outputs, efficiency and impact.



Llywodraeth Cymru  
Welsh Government

[www.cymru.gov.uk](http://www.cymru.gov.uk)

## Delivering Science for Wales 2012-13

Annual report on our strategic agenda  
for science and innovation in Wales



# Scientific Advice Mechanism

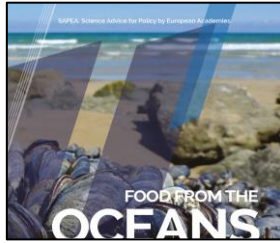
to the European Commission

<https://scientificadvice.eu>



**SAPEA** (Science Advice for Policy by European Academies)

ACADEMIA EUROPAEA  
CARDIFF KNOWLEDGE HUB



The European Commission's **Scientific Advice Mechanism** provides independent science advice to **European Commissioners** to inform their decision-making

First Meeting of the Group of **Chief Scientific Advisers** with the **SAPEA Board**



Director General  
Robert-Jan  
Smits MAE

Rolf-Dieter  
Heuer ML MAE

Ole Petersen  
CBE FRS ML MAE

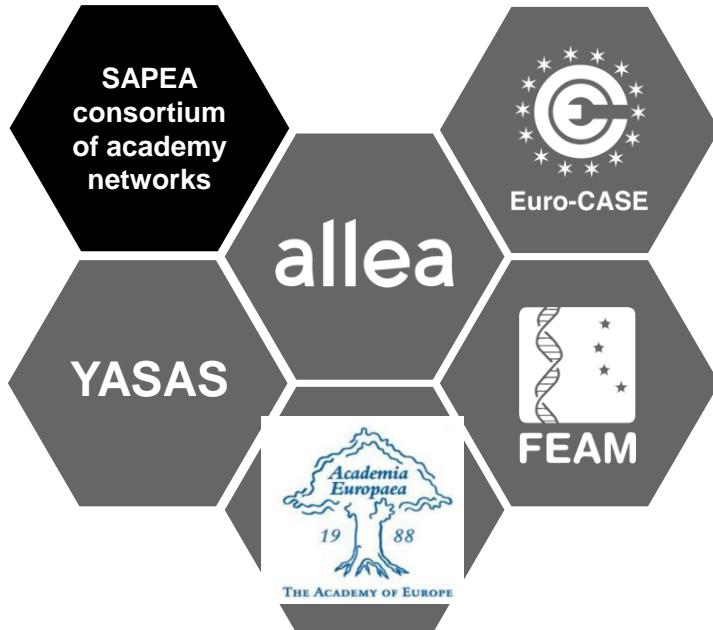
Pearl Dykstra MAE

Commissioner  
Carlos Moedas

Sir Paul Nurse FRS MAE  
Nobel Prize 2001

European Commission, Berlaymont, Brussels, 30<sup>th</sup> January 2017

## About SAPEA



- **Brings together around 110 national academies from across Europe**
- Offers outstanding expertise from natural sciences, engineering and technology, medical, health, agricultural and social sciences, and the humanities
- **Provides independent evidence reviews on request**
- Informs the Scientific Advisors' policy recommendations

## Some of the great National Academies of Europe

1742



**Royal Danish Academy of Sciences & Letters (Copenhagen)**

1652



**The German National Academy of Sciences Leopoldina (Halle)**

1825



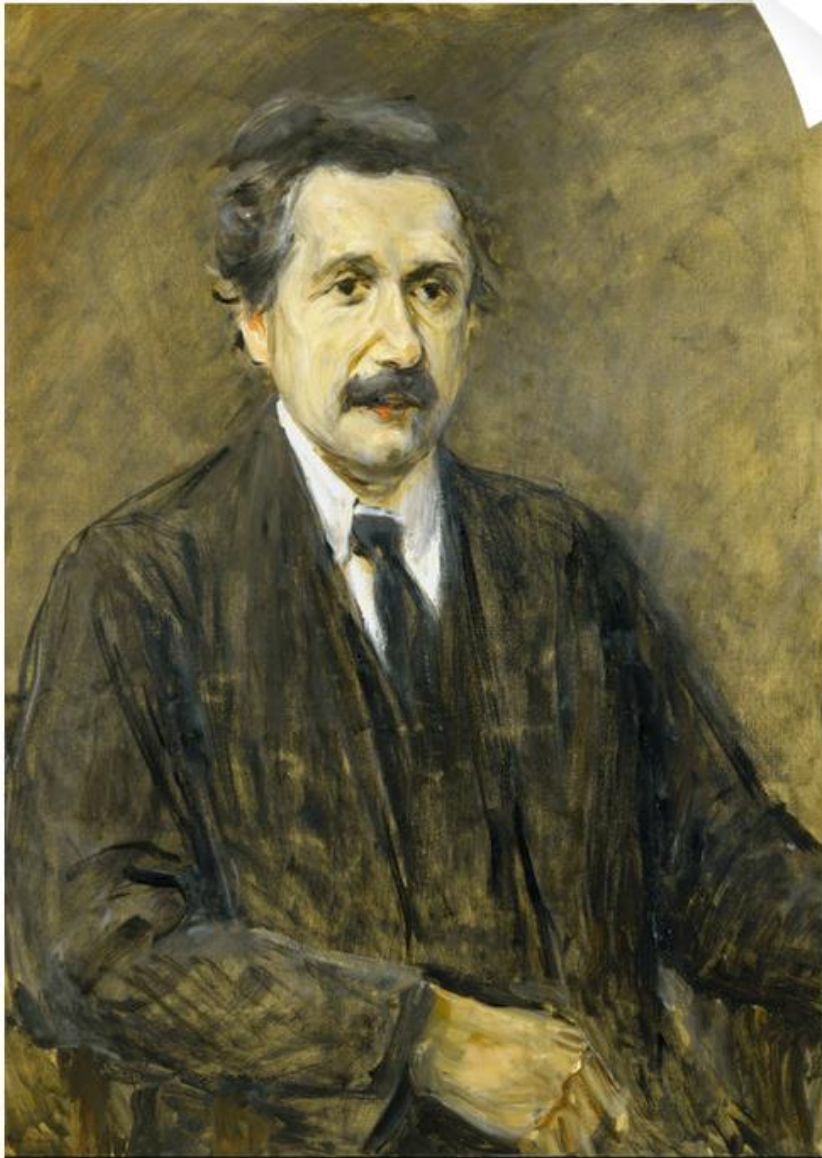
**The Hungarian Academy of Sciences (Budapest)**

1660



**The Royal Society (London)**





Albert Einstein ForMemRS  
by Max Liebermann  
(Royal Society Collection)

Vorschlag  
zum Mitglied der Kaiserlich Leopoldin.-Carolin.  
Deutschen Akademie der Naturforscher.

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Name: A. Einstein  
Alter: 51 J.  
Anschrift: Prof. Dr. Berlin  
Stellung:

Wissenschaftliche Leistungen: (Hier sind Entdeckungen und der gleichen anzuführen, die mit dem Namen des Vorgeschlagenen verknüpft sind, möglichst unter Angabe der in Betracht kommenden Arbeiten.)

1906 Spezielle Relativitätstheorie  
1915 Allgemeine " "  
und viele andere grundlegende  
theoretische Arbeiten.

Mitglied der Göttinger Akad. seit 23  
München " 27  
Royal Society " 21  
Berliner Akad.

Vorgeschlagen von :  
G. Hoffmann  
F. Schlegel



Sir Arnold Burgen  
Member No. 1

Marie-Lise Chanin  
Member No. 47

Ole Petersen  
Member No. 20

# Academia Europaea Foundation Meeting: Cambridge 1988

# Academia Europaea 30th Anniversary celebration



THE  
ROYAL  
SOCIETY



Monday 24 September 2018  
Kohn Centre and Marble Hall

**Professor Jean-Pierre BOURGUIGNON MAE**  
*(President of the European Research Council):*

"The creation of the Academia Europaea was a concrete recognition by scientists of all disciplines that Europe is a natural scene where they have a role to play. Its success, attested by the high level events it organises and **its role in gathering expertise to advise the European Commission**, confirms the rightfulness of this vision."



THE ACADEMY OF EUROPE



# ACADEMIA EUROPAEA

CARDIFF

Academia Europaea (*The Academy of Europe*)

<https://aecardiffknowledgehub.wales/>

## Academia Europaea

- Founded in 1988
- Now has more than 5000 members, including more than 80 Nobel laureates
- Members are leading scientists and scholars, elected by their peers
- Operates through a network of hubs across Europe, including Cardiff



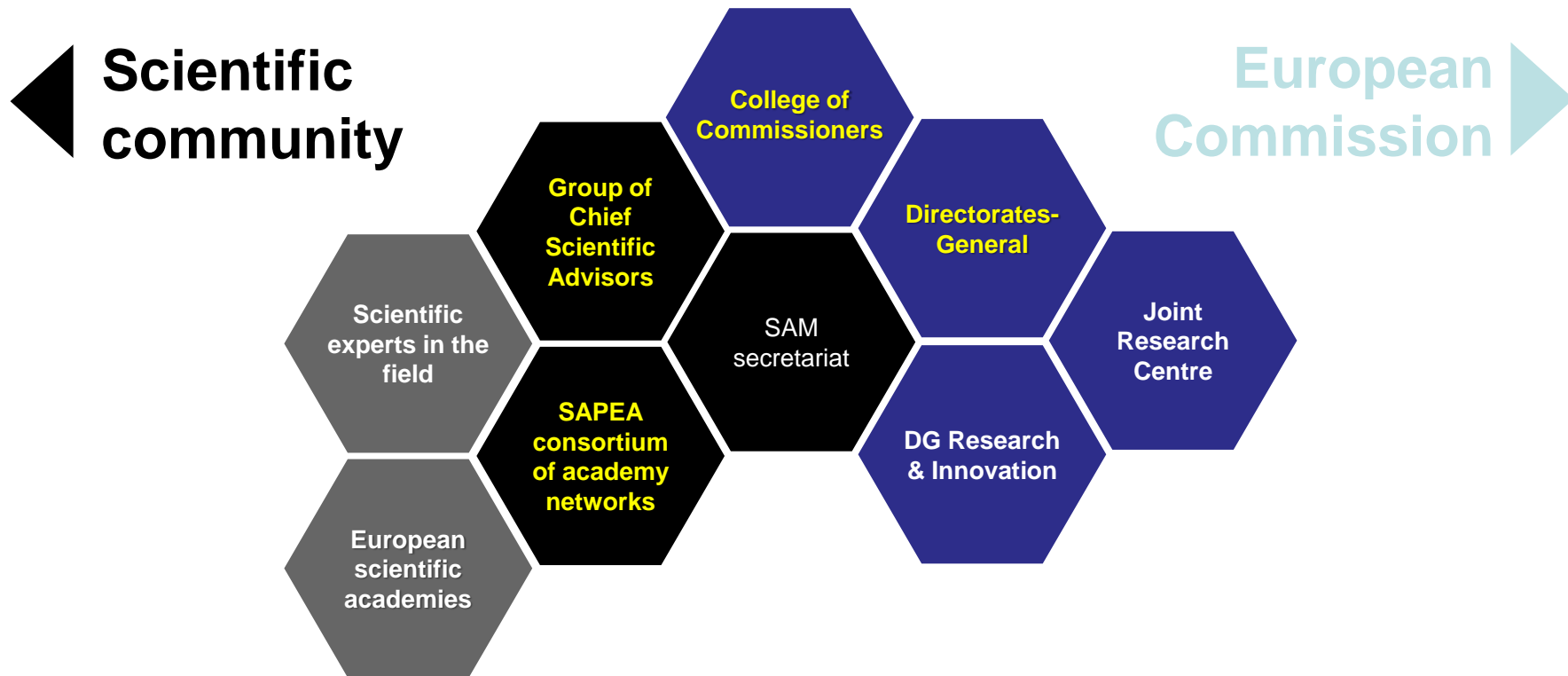
ACADEMIA EUROPAEA



# Scientific Advice Mechanism

to the European Commission

## Interfacing between science and policy



# Quality assurance guidelines *and* Procedures on science advice for policy and society

*September 2023*

*Working group in charge of revision (2023)*

Jan Wörner, Chair, Euro-CASE

Dominique Bron, FEAM

Jacek Kolanowski, YASAS

Ole Petersen, Academia Europaea

Maarten Prak, ALLEA

**SA  EA**

Science Advice for Policy by European Academies

# SAPEA Evidence Review Reports

The mandate of the SAM is ‘to provide high quality and independent science advice to the European Commission on matters of importance to Commission policy making, in as transparent and unbiased a manner as possible.’<sup>2</sup>

According to its grant agreement, SAPEA provides at the request of the European Commission ‘targeted scientific evidence in a timely and transparent manner to inform the production of science advice by the Group of Chief Scientific Advisors while ensuring the highest scientific quality, developed by complete and independent evidence analysis and synthesis. [...] SAPEA assembles interdisciplinary Working Groups of scientific experts. The Working Groups produce Evidence Review Reports or other scientific inputs for the Chief Scientific Advisors.

[...] The Evidence Review Reports produced by the SAPEA Working Groups, provide a comprehensive overview of current knowledge on a scientific topic including substantive findings, as well as theoretical and methodological contributions. An Evidence Review Report describes, summarises, evaluates, and clarifies the evidence, as well as the uncertainties and knowledge gaps in a systematic manner. It also includes a critical appraisal of the evidence, evidence-based conclusions, and evidence-based policy options. The Evidence Review Reports inform the Scientific Opinions of the Group of Chief Science Advisors.’

# SAPEA Evidence Review Reports

- SAPEA ensures that Evidence Review Reports are based on the most up-to-date scientific evidence available across all relevant disciplines.
- SAPEA's interdisciplinary Working Groups have the full range of expertise required for the topic.
- SAPEA ensures that results are presented in a scientifically balanced way.
- SAPEA follows the principles of its strategy of diversity and inclusiveness.
- When differences in scientific views among the Working Group cannot be resolved, SAPEA ensures that they are clearly identified and explained in the reports.
- SAPEA Evidence Review Reports undergo a double-blind peer review process.
- Members of SAPEA Working Groups are required to fill in a Declaration of Interests form. These Declarations are assessed, considered and published by SAPEA in order to ensure transparency and independence of the advice.



Science advice by SAPEA relies on the following principles:

## Relevance

- **Relevance** is achieved through an open and inclusive dialogue about major societal challenges between policymakers and scientists, to construct a shared understanding of the policy issue and the key questions that need to be answered. Both the policy context and the scientific questions to be answered are presented in a Scoping Paper, which forms the basis for the Evidence Review Reports or other outputs of the science advice process.

## Excellence

- **Excellence** is achieved through detailed and transparent selection procedures for Working Group members. Excellence is the main criterion in this process, along with the relevance of the candidate's expertise to the topic. The quality of the SAPEA Evidence Review Reports is inherently related to the excellence of scientific experts, as endorsed by the judgement of their peers and manifested in their various careers and research activities, including those beyond traditional forms of scientific output. The evaluation of scientific excellence takes into account the principles agreed by the Coalition for Advancing Research Assessment.<sup>4</sup>

## Transparency

- **Transparency** is achieved by publishing guidelines on the science advice process and gathering of evidence. Transparency is essential for building trust and maintaining legitimacy with the stakeholders of science advice, including the policymakers, governments, scientific communities and the public.

## Independence

- **Independence:** SAPEA is independent in the preparation of the Evidence Review Reports. In addition, experts involved in SAPEA working groups must be independent from financial and other vested interests and act in the public interest.

## Diversity

- **Diversity** is a major consideration that helps to compensate for individual biases, and to provide sound, high-quality science advice. This includes diversity in the range of pertinent disciplines covered in each Working Group, as well as in the members' social and geographical backgrounds and career stages, and the intersections of these parameters.

## Clarity

- **Clarity about uncertainty:** Where there are uncertainties in scientific evidence, SAPEA's science advice aims to provide clarity about what is known, partially known, unknown, and unknowable at the moment of publication.

## Ethics

- **Ethics:** SAPEA works in compliance with ethical principles with respect to human rights, environmental rights and the European Code of Conduct for Research Integrity.

# Handover of SAPEA Microplastics Evidence Review Report to European Commission



European Commission Brussels (Berlaymont Building)  
Friday 11<sup>th</sup> January 2019

**Nahrungsquelle Meer**  
 Entwicklungen, Gefährdungen,  
 Prognosen

Donnerstag, 5. Oktober 2017, 18:30 Uhr  
 Baseler Hof Säle, Esplanade 15, Hamburg

GEFÖRDERT VOM

Bundesministerium  
 für Bildung  
 und Forschung

**UNION**  
 DER DEUTSCHEN AKADEMIE  
 DER WISSENSCHAFTEN

Eine Initiative des Bundesministeriums  
 für Bildung und Forschung

Wissenschaftsjahr 2016 + 17

**MEERE  
 UND OZEANE**

**SAPEA**  
 Science Advice for Policy by European Academies

**AKADEMIE DER  
 WISSENSCHAFTEN  
 IN HAMBURG**

Hamburg, October 2017: One of several 'outreach' events in connection with 'Food from the Oceans'

SAPEA: Science Advice for Policy by European Academies

**FOOD FROM THE  
 OCEANS**

THE ACADEMY OF EUROPE

**SAPEA**  
 Science Advice for Policy by European Academies

Evidence Review Report No. 1

