

### S4D4C EUROPEAN SCIENCE DIPLOMACY ONLINE COURSE

### **MODULE 7**

### **Hands On! Case Studies**

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#### EUROPEAN SCIENCE DIPLOMACY S4D4C ONLINE COURSE **MODULE 3 – WHO ARE THE SCIENCE DIPLOMACY STAKEHOLDERS?**

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#### 7.1 Introduction to the Module

#### **7.1.1 Learning Objectives and Experts' Preliminary Insights**

#### Learning objectives

This module aims to provide you with practical examples of science diplomacy in the making. A mixed team of researchers from the S4D4C consortium have produced nine empirical case studies, and in this module we will share information from four of these cases. You will find answers to the following questions:

- What is the science diplomacy dimension on each particular case?
- Who are the main stakeholders for each practical case and what are their interests?
- What are the relationships between EU, MS and global challenges evident in these real life scenarios?
- What are the main findings and recommendations to come out of these empirical case studies?

#### What the experts think

A brief explanation of what you will find in this module is provided by the work package leader of our S4D4C empirical case studies.



#### Mitchell Young

Assistant Professor, Department of European Studies, Charles University in Prague

What is the main research question you wanted to ask with these case studies?

Video Link to YouTube

#### Some Questions to reflect on after watching the videos

These questions are posed for you to reflect individually about what you are going to find in the following case studies. Please, take some time to consider these questions and develop some ideas.

- Do you think science diplomacy is widely recognised as a practice across different stakeholders and professionals?
- How do national and global interests influence decision-making?
- Would there be any topic or any scientific discipline specially related to science diplomacy nowadays?



#### 7.1.2 Rationale for the Selection of S4D4C Case Studies

A mixed team of researchers from across different disciplines (political science, diplomacy, law, sociology, and science and technology studies) within the S4D4C consortium conducted nine case studies between June 2018 and December 2019.

The S4D4C project looks at science diplomacy from a European perspective in the context of global challenges. Each case study provides an overview of the topic and its background, context, the stakeholder landscape and a discussion of governance practices and arrangements. They look at different government-levels (International Organisations, EU, Member States, etc.) and examine the use of knowledge, the relations between the different levels and provide a discussion on how the case improves or changes our understanding of science diplomacy.

The case selection was based on viewing the intersection of science and policy from three distinct angles, defined by the primary drivers and areas of uncertainty within the scientific and political systems.

- Foreign-policy driven cases: in these cases, the foreign policy relevance is well established, and science plays a supporting role. We framed them as 'diplomacy challenges' as we believed that the greatest obstacles would be in the diplomatic rather than the scientific sphere. Our selected cases were: infectious diseases, water management, and cybersecurity. In this module, we focus on the case of infectious diseases (see Lesson 7.2).
- 2) Science-driven cases: the advance of science presents new opportunities and challenges, and thus can potentially play an active role in shaping foreign policy approaches. These we framed as 'science opportunities' to reflect the hypothesis that new developments in science would open up opportunities for diplomacy. Our selected cases were: food security, large scale thematic research investments, and open science. In this module, we show information about food security and open science (see Lessons 7.3 and 7.4).
- 3) Instrument-driven cases: with a focus on the role of coordination that emerges from policy instruments, from different types of policy initiatives that inherently appeared to constitute a diplomatic drive. We called them 'coordination options' as they potentially presented rich opportunities for diplomatic coordination to occur. Our selected cases were: the SESAME infrastructure, joint research programming, and science advice mechanisms. In this module, we give you information about SESAME (see Lesson 7.5).





This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 770342.

#### What the experts think

You will see in the following video the criteria we followed to select these cases.



Mitchell Young Assistant Professor, Department of European Studies, Charles University in Prague

What criteria did you follow to choose the S4D4C case studies? Video Link to YouTube

#### **Read more!**

All the information about all these case studies can be found in the following document:

- Young, Mitchell; Flink, Tim; and Dall, Elke (eds.) (2020): Science Diplomacy in the Making: Case-Based insights from the S4D4C Project. S4D4C: Vienna. (Link)



#### 7.1.3 Transversal Analysis of S4D4C Case Studies

A comparative study of the nine case studies of the S4D4C project revealed 10 transversal aspects that help us to make sense of the complex, multi-level, multi-actor, multi-faceted concept of science diplomacy. These transversal aspects we have labeled 'matters' in our report because they both comprise the substance of science diplomacy, and they matter, in the sense that they are consequential for both practically and conceptually understanding science diplomacy.



- 1. **Explicitness/Implicitness** The label 'science diplomacy' can be applied to people, practices, and phenomena. The act of labeling something (or choosing not to label it) is political, that is, it serves to advance foreign policy objectives and to legitimize people and their activities. In our cases we have found a great deal of science diplomacy which happens without being labeled, this we refer to as implicit science diplomacy. Sometimes implicit science diplomacy is intentional, but often it is a result of a lack of awareness of the term. Either way, it is important that we don't limit our thinking about science diplomacy only to things that bear its label.
- 2. Interests Interests have become increasingly part of the science diplomacy discourse, particularly with the pragmatic approach discussed in Module 2. However, we need to be aware that interests are almost never unitary or unified. Instead we find that there is a *complex array of competing and cooperating interests of different types (political, scientific, economic, and personal) that operate on different levels and scales.* In all these types, we find that tensions between competition and cooperation create an 'interest paradox'. A task of the successful science diplomat is to uncover and understand the complete set of interests that impact on any given situation.



- 3. Values Science diplomacy efforts are influenced by two distinct sets of values, political-social values and scientific values. The former often provide the grand objectives for science diplomacy initiatives, but the later (which includes universalism, communality, disinterestedness, organized skepticism, responsibleness, precautionary, openness, truth) can form the basis of cooperation with countries that may not share political values. Different types of science diplomacy, as identified by the Royal Society/AAAS, engage with different sets of values in distinct ways.
- 4. **Scale** Science diplomacy depends on a variety of scale framings: spatial, administrative, and epistemic. Spatial scale corresponds to geography, administrative scale to the governance levels and administrative structures available on them, and epistemic scale refers to the range of disciplines and scientist networks that are engaged, both nationally, regionally, and globally. In all three scales we find a-symmetries between regions, particularly between the global north and south, that need to be taken into consideration and addressed.
- 5. Levels Levels matter for science diplomacy because they are key in structuring our understanding of how different actors and stakeholders can and do jointly respond to global challenges. We find four essential levels on which science diplomacy should be considered: global, sub-global, national, and sub-national, but note that science diplomacy processes pervade all levels. What is interesting is the connections between levels and how the need for a mixed-level or multi-level approach is and can be met.
- Individuals Science diplomacy is often characterized by institutions, interfaces, collective actors and communities; however, individuals matter profoundly for science diplomacy as creative and responsible actors within their respective professional realms. Many of the cases show how individual leadership and determination were critical for achieving science diplomacy results.
- 7. **Geography** When we think about geography in relation to science diplomacy, we need to think not only about physical geography, but also human geography travel and migration patterns and the way in which history and culture affect science diplomacy's efforts and create cultural regions. Geography of both types shapes national needs and fosters scientific and technical expertise, and institutional and industrial development, which may be exploited as national soft-power assets. Geography is also important for science diplomacy in term of the interdependence and the perception of shared challenges within regions.
- 8. Governance systems Governance systems are unique in their networked configuration of actors, stakeholders, processes, instruments, and institutions. We can better understand them by looking at three types of nodality (being in the middle of the network): nodality of science how central science is vis-à-vis diplomacy, nodality of level which levels (see matter above) are most central, and finally how the nodes cluster to create core and peripheral element of the governance system. Nodality in the science diplomacy system provides opportunities to exert leadership and shape agendas.
- 9. **Instruments** An examination of the instruments used in science diplomacy practices provides insight into why bottlenecks in foreign policymaking occur. Science diplomacy efforts, especially for global challenges, requires multiple and mixed instrument approaches, bringing in strategic, operational and support instruments. When there are



gaps in the mix or when instruments conflict or create frictions, we find suboptimal outcomes.

10. Rhythm and timing – Politics and science both have 'normal rhythms' or sequences of action that regularly occur, such as election cycles in politics, and publication and peer review cycles in science. Science diplomacy can get caught between and betwixt those rhythms, which do not correspond to its needs and objectives. Timing, on the other hand, is intentional, and we find that its strategic use is crucial for interrupting and/or aligning these rhythms in order to moderate and synchronize their future course in the process of addressing global challenges.

#### What the experts think

Learn from our case study work package leader who shares some common conclusions from these empirical case studies.



#### 7.1.4 Historical Case Studies from InsSciDE

S4D4C's sister project InsSciDE – 'Inventing a shared Science Diplomacy for Europe' – has been invited to showcase two case studies in this online training: "Designing a European Health Diplomacy" (see Lesson 7.6) and "UN Convention on the Law of the Sea" (see Lesson 7.7).

A member with S4D4C and EL-CSID of the Horizon 2020 <u>EU Science Diplomacy Cluster</u>, InsSciDE brings together historians, STS scholars, political scientists, archaeologists, trainers and public engagement specialists from 11 countries and UNESCO. The researchers critically investigate Europe's science diplomacy 'capital' through two dozen case histories spanning more than three centuries and a broad range of topics. To complement the S4D4C cases presented in this online training course, InsSciDE presents historical studies of Health Diplomacy and Environmental Diplomacy:

- the roots of Global Health Diplomacy in the management of the 1899 plague epidemic in Oporto
- the co-production by scientists and diplomats in the 1960-70s of new definitions for global ocean space so that it could be governed in new more expansive and potentially equitable ways.

The InsSciDE main contact is:





#### **Claire Mays**

Executive Director, H2020 InsSciDE.eu, and Institut Symlog

Link to CV

#### **Read more!**

- InsSciDE's website insscide.eu contains a 'pitch' for two dozen case studies of science diplomacy, and will deliver a full casebook as well as theory and strategy offerings.
- You can also visit the EU SD Cluster's shared website science-diplomacy.eu which will carry our projects' sustained legacy.
- For further information about the EU Science Diplomacy Cluster, you may revisit Topic <u>4.4.6 The EU</u> <u>Science Diplomacy Cluster</u>.



InsSciDE, coordinated by Prof. Pascal Griset, Sorbonne Université, has received funding under the European Union's Horizon 2020 Research and Innovation programme (grant agreement n° 770523, 2018-2021)

#### 7.2 Infectious Diseases

Case authors:

Ivo Šlosarčík, Charles University

Nadia Meyer, German Aerospace Center

Jennifer Chubb, University of Sheffield

The Zika epidemics in 2015 and 2016 provided a platform for further elaboration of science diplomacy used by the EU institutions and EU Member States. The response was characterised by an interplay between the political, diplomatic, medical and scientific communities performed within national, European, and global frameworks.

#### 7.2.1 The Science Diplomacy Dimension

The outbreak of infectious diseases frequently go beyond national borders and provide a platform for deepening international cooperation as well as the formation of global governance in the field of medicine (see 5.3.3 Health). These global epidemic outbreaks drive political responses and also have an impact on mobility, tourism, and global trade.

The inherent evolutionary character of infectious diseases and the changing political and societal environment have created new challenges in the fight against epidemic diseases. The most prominent examples include: outbreaks of new epidemics (SARS, Ebola, avian flu, swine flu, Zika), the continuation of older "low-level" epidemic diseases (malaria, AIDS), the return of almost eradicated infectious diseases to developed states (measles, tuberculosis) as well as the public health consequences of new migration patterns, erosion of governance structures in many low income countries, increase in antibiotic resistance and, last but not least, the shift in the vaccination paradigm in many developed countries.



The reaction of the EU and its Member States to the afore-mentioned challenges allows for an interplay between diplomacy, research coordination and management of public health affairs, both in the forms of "science in diplomacy" and "diplomacy for science".

In particular, the Zika outbreak in 2015 and 2016 triggered an intensive response by the EU. The response was characterised by an interplay between political, diplomatic, medical and scientific communities. The response to the Zika epidemics followed institutional and legal frameworks already established during previous global epidemics, in particular the outbreaks of SARS (2003), MERS (2009) and Ebola (2013).

In addition, the study tackles the knowledge transfer and the best (or worst) practices occurring in individual outbreaks of epidemics in recent decades. It looks at continuity and discontinuity of the institutional patterns of the EU and national responses to epidemic crises. It also presents the emergence of a competition between the political and scientific attention attracted by different infectious diseases.

#### What the experts think

The lead author of this research case study, Prof Ivo Šlosarčík, has been interviewed to provide you with some key highlights.



#### Ivo Šlosarčík

Professor of European Integration Studies and Jean Monnet Chair in EU Politics and Administration and Jean Monnet Chair in EU Law, Charles University in Prague

Why do you think infectious diseases can be a good case to analyse its science diplomacy dimension?

Video Link to YouTube

#### Read more!

You may get all the information about this S4D4C case study in the following references:

- Šlosarčík, I., N. Meyer, J. Chubb (2020): Science diplomacy as a means to tackle infectious diseases: The case of Zika. In: Young, M., T. Flink, E. Dall (eds.) (2020): Science Diplomacy in the Making: Case-based insights from the S4D4C project, (Link).
- Poster Report: "Science diplomacy and infectious diseases: between national and European narratives" (Link).

#### 7.2.2 Research Methodology

This research case study analysed the political, medical, and scientific responses in EU institutions and also in three Member States: the UK, Czech Republic, and Germany.

The case authors undertook an analysis of the governance framework present within all governance-levels that had a role in responding to the Zika outbreak: global actors (such as the World Health Organisation, WHO), EU actors (The European Council, the European Commission, the Directorate General for Health and Food, or the European Centre for Disease



Prevention and Control-ECDC), and national actors, identifying the public institutions in charge of foreign affairs, public and global health, research, and also science advice.

Once these institutions were identified, the research team conducted interviews in the diplomatic service, ministries responsible for medicine, for research, public hygiene and public health, government bodies, as well as in research and medical institutions and associations.

Special attention was focused on four areas:

- a. Political reaction and prioritization of science diplomacy
- b. Data collection and data sharing
- c. Internalisation of research and allocation of new funding to expand research on the infectious disease
- d. Operational response to the crisis

#### What the experts think

The lead author of this research case study, Prof Ivo Šlosarčík, has been interviewed to provide you with some key highlights.



#### Ivo Šlosarčík

Professor of European Integration Studies and Jean Monnet Chair in EU Politics and Administration and Jean Monnet Chair in EU Law, Charles University in Prague

How have you structured your research? What countries have you compared and why? What kind of stakeholders have you interviewed?

Video Link to YouTube

#### Read more!

You may get all the information about this S4D4C case study in the following references:

- Šlosarčík, I., N. Meyer, J. Chubb (2020): Science diplomacy as a means to tackle infectious diseases: The case of Zika. In: Young, M., T. Flink, E. Dall (eds.) (2020): Science Diplomacy in the Making: Case-based insights from the S4D4C project, (Link).
- Poster Report: "Science diplomacy and infectious diseases: between national and European narratives", (<u>Link</u>).

#### 7.2.3 Main Findings

The research into the response to the Zika outbreak and its comparison to previous responses to other epidemic outbreaks provided the following main conclusions:

1. The Zika outbreak has not dramatically changed the European or national reaction to global health issues. The reaction to Zika was built upon already existing institutional platforms, mechanisms and narratives. If there was a game changer in how



the EU and its Member States address global infectious diseases, this was the West African Ebola outbreak (2013-2016).

- 2. **Geography and bilateral relationships are important**. Regardless of the global impact of the Zika epidemic, the geographical position and the intensity of bilateral relations with Latin America had a significant impact on science diplomacy related to the Zika outbreak. This explained the relatively low profile of the Czech Republic's institutions in the response to Zika, as the country has a relatively lower intensity of bilateral relations with Latino American countries than Germany or the United Kingdom.
- 3. **Public health diplomacy has more traction and conceptual understanding** in both the diplomatic and the health community than the term 'science diplomacy'.
- 4. When tackling infectious diseases, there are two approaches that are not necessarily interconnected and compete with each other for attention and financial resources: (i) the operational reaction to confine and prevent the outbreak, and (ii) fostering more prevention and research-oriented work to better understand the disease.
- 5. Science diplomacy continues to operate within the general national diplomatic narrative of a country. For instance, the German use of science diplomacy during the Zika epidemic can be interpreted as an attempt to globalise German scientific excellence, combined with some altruistic motives. In the UK, science diplomacy is perceived as a confirmation of an already existing and expanding "Global Britain" able to adapt to the new global environment and its challenges; further, UK science diplomacy is advanced through established government science advice mechanisms, and has an increasing role in the assessment of impact within the UK science system. The Czech case, in contrast, demonstrates the reaction of a smaller country with limited resources and aspirations to focus on other challenges than this one.
- 6. The more intergovernmental 'Union method' (as opposed to the 'Community method') can be identified in the European reaction to the Zika epidemics. All the states we researched used a combination of national channels, the existing EU framework, as well as other institutional platforms (such as the G7 and G20, which were used as fora to bring up the topic by Germany and the UK) when available.

#### What the experts think

The lead author of this research case study, Prof Ivo Šlosarčík, has been interviewed to provide you with some key highlights.





#### Read more!

You may get all the information about this S4D4C case study in the following references:

- Šlosarčík, I., N. Meyer, J. Chubb (2020): Science diplomacy as a means to tackle infectious diseases: The case of Zika. In: Young, M., T. Flink, E. Dall (eds.) (2020): Science Diplomacy in the Making: Case-based insights from the S4D4C project. (Link)
- Poster Report: "Science diplomacy and infectious diseases: between national and European narratives" (Link)

#### **7.2.4 Main Recommendations**

The two main recommendations coming from this research case study are as follows:

- The use of science diplomacy in the context of global epidemics should not be taken for granted. While the science diplomacy concept has its place in the diplomatic and scientific communities, it seems to be used less intuitively by stakeholders responsible for public health management.
- Science diplomacy for infectious diseases will need to adapt not only to the medical aspects of the infectious diseases but also to a **changing political and societal environment**, such as new migration patterns, the erosion of governance structures in many low income countries and the shift in the vaccination paradigm in developed states.

#### What the experts think

The lead author of this research case study, Prof Ivo Šlosarčík, has been interviewed to provide you with some key highlights.



#### Ivo Šlosarčík

Professor of European Integration Studies and Jean Monnet Chair in EU Politics and Administration and Jean Monnet Chair in EU Law, Charles University in Prague

What are your main recommendations to better integrate science diplomacy into the management of infectious diseases? To whom would you address them?

Video Link to YouTube

#### Read more!

You may get all the information about this S4D4C case study in the following references:

- Šlosarčík, I., N. Meyer, J. Chubb (2020): Science diplomacy as a means to tackle infectious diseases: The case of Zika. In: Young, M., T. Flink, E. Dall (eds.) (2020): Science Diplomacy in the Making: Case-based insights from the S4D4C project, (Link).
- Poster Report: "Science diplomacy and infectious diseases: between national and European narratives", (<u>Link</u>).



#### 7.3. Food Security in EU-Africa

Case authors:

Rafaël Cos, University of Lille,

Pauline Ravinet, University of Lille,

Mitchell Young, Charles University

Over the past 20 years, a set of institutions, firms, competencies, partnerships, and programmes, have shaped the features of EU-African Union food security diplomacy. To what extent has science played a role in deploying this food security diplomacy?

#### 7.3.1 The Science Diplomacy Dimension

Even before declaring "Zero Hunger" as one of the 17 Sustainable Development Goals, food security has been high on both national and also international agendas. This includes a multitude of international actors, including the European Union (EU), the African Union, the Economic Community of West African States (ECOWAS), the World Food Program (WFP), the Food and Agriculture Organization (FAO), and the International Fund for Agricultural Development (IFAD), are interested in this topic. The partnership of the EU and the UN agencies on International Governance System and Food Nutrition Security has resulted in a *Policy Framework on Food Security* (PFFS). Today, the EU maintains bilateral cooperation with around 60 countries, while it continues to strengthen its joint actions with multilateral organisations, NGOs and international research organisations. So what is the role of science in this multitude of actors?

The authors draw on the widely-used categorisation of "diplomacy for science", "science for diplomacy" and "science in diplomacy" in order to summarise the science diplomacy dimension:

- Activities of international networking in food security research are an example of policy cooperation, and for instance can clearly be understood as "**diplomacy for science**", or diplomacy facilitating international scientific cooperation.
- The way the food security challenge is linked to issues of stability, conflict prevention, health, well-being, and/or migration also makes of Food security research activities a case of "science for diplomacy", or as science cooperation improving international relations. Food security is also an important market issue for EU relationships with different regions, especially Africa.
- Therefore what needs to be explored more precisely is how Food security can be seen as a case of **"Science in diplomacy"** or of science (food security research) advising and informing diplomacy (EU external relations).

In sum, a more comprehensive way to understand food security as science diplomacy issue for the EU, is to analyse the interfaces between science (EU food security research) and diplomacy (food security as an issue for the EU as a global actor).



#### What the experts think

One of the authors of this research case study, Dr Pauline Ravinet, has been interviewed to provide you with some key highlights.



#### **Pauline Ravinet**

Assistant Professor of Political Science, CERAPS, University of Lille

How does food security affect science diplomacy, in particular in the EU-Africa relations?

Video Link to YouTube

#### Read more!

You may get all the information about this S4D4C case study in the following references:

- Ravinet, P., R. Cos, M.Young (2020): The science and diplomacy of global challenges: Food security in EU-Africa relations. In: Young, M., T. Flink, E. Dall (eds.) (2020): Science Diplomacy in the Making: Casebased insights from the S4D4C project (Link)
- Poster Report: "The science and diplomacy of global challenges: Food security in EU-Africa relations" (Link)

#### 7.3.2 Research Methodology

The authors of the case assessed the interplay between various organisations and stakeholders involved in addressing food security. They focused on the key international and supranational organisations such as the European Commission, the African Union, the World Food Program (WFP), the Food and Agriculture Organization (FAO), and the International Fund for Agricultural Development (IFAD).

Their analysis is based on **desk research** using a range of **primary documents**, especially project material (calls, database of projects) related to the EU research funding scheme, Horizon 2020 (H2020), EU publications on the EU-Africa Partnership on Food and Nutrition Security and Sustainable Agriculture (FNSSA) work programs, as well as academic publications, and key policy documents on the EU-Africa partnership.

Additionally **interviews** were conducted with representatives from the European Commission Directorate-Generals for Research and Innovation (RTD), International Cooperation and Development (DEVCO), Agriculture and Rural Development (AGRI), the Joint Research Centre (JRC) and the European External Action Service (EEAS).

#### What the experts think

One of the authors of this research case study, Dr Pauline Ravinet, has been interviewed to provide you with some key highlights.





#### **Pauline Ravinet**

Assistant Professor of Political Science, CERAPS, University of Lille

What kind of stakeholders did you interview? Which instruments have been used?

Video Link to YouTube

#### **Read more!**

You may get all the information about this S4D4C case study in the following references:

- Ravinet, P., R. Cos, M.Young (2020): The science and diplomacy of global challenges: Food security in EU-Africa relations. In: Young, M., T. Flink, E. Dall (eds.) (2020): Science Diplomacy in the Making: Casebased insights from the S4D4C project (Link)
- Poster Report: "The science and diplomacy of global challenges: Food security in EU-Africa relations" (Link)

#### 7.3.3 Main Findings

Twenty years of institutional cooperation and partnership on topics related to food security have shaped the international agenda, including the European Union and the African Union. So what lessons can be drawn about the impact of this cooperation? Which improvements do the authors of the case note? What are the barriers to tackled for collaborative action to achieve one of the most ambitious Sustainable Development Goals, "Zero Hunger" by 2030? What role does- and could science diplomacy play in this endeavour?

The authors conclude that an increasing **institutionalisation of strategic instruments and the interplay between scientific and diplomatic stakeholders** has improved cooperation in EU-African food security diplomacy. This is reflected not only in financial commitments but also in strategic initiatives by the organisations, ranging from the Joint Africa-EU Strategy (JAES) in 2007 to the EU- Africa R&I Partnership on Food and Nutrition Security and Sustainable Agriculture (FNSSA) in 2016.

Even though a **diverging understanding of science diplomacy** among the key institutions in the European Union exists (for example, EEAS may see it as "a way to make diplomacy through "parallel means" while the European Commission sees it as "an instrument of soft power", the authors conclude that there is a mutual awareness of the two core elements of science diplomacy with a greater salience of the diplomatic dimension in science policy than vice versa.

The involvement of several Directorate Generals (Research and Innovation (RTD), International Cooperation and Development (DEVCO), Agriculture and Rural Development (AGRI)), two European External Action Service (EEAS) directorates and the EU Delegation to the African Union is a testimony to the great attention devoted to food security. Against this backdrop, the creation of "science diplomats" (S&T attachés) has the potential to bridge the different interests and interpretations of science diplomacy among institutions and geographical regions.



#### What the experts think

One of the authors of this research case study, Dr Pauline Ravinet, has been interviewed to provide you with some key highlights.



#### **Pauline Ravinet**

Assistant Professor of Political Science, CERAPS, University of Lille

What specific roles and ways of working have you identified? Video Link to YouTube

What were your main findings?

Video Link toYouTube

#### Read more!

You may get all the information about this S4D4C case study in the following references:

- Ravinet, P., R. Cos, M.Young (2020): The science and diplomacy of global challenges: Food security in EU-Africa relations. In: Young, M., T. Flink, E. Dall (eds.) (2020): Science Diplomacy in the Making: Casebased insights from the S4D4C project (Link)
- Poster Report: "The science and diplomacy of global challenges: Food security in EU-Africa relations" (Link)

#### 7.3.4 Main Recommendations

Based on these findings, the authors draw four recommendations:

- Given the multitude of actors involved within the EU (Directorate General Research and Innovation (DG), the European External Action Service (EEAS), delegations to multilateral institutions and countries), the authors call for **better coordination** in the field of science diplomacy.
- Due to the EU's ambition to tackle global challenges, such as ensuring food security in Africa, science policy and foreign policy should be closer aligned. Concretely, this would entail deeper coordination between the Directorate General Research and Innovation (DG RTD) and the EEAS.
- 3. The European Union's S&T attachés (the "science diplomats") should receive **additional support**, especially in regions where their work is most required.
- 4. **Dissemination formats** for research on food security (and other global challenges), funded by the EU, should be developed, in order to contribute to EU diplomacy.

#### What the experts think

One of the authors of this research case study, Dr Pauline Ravinet, has been interviewed to provide you with some key highlights.





#### **Pauline Ravinet**

Assistant Professor of Political Science, CERAPS, University of Lille

What are your recommendations to better integrate science diplomacy into the management of food security?

Video Link to YouTube

#### **Read more!**

You may get all the information about this S4D4C case study in the following references:

- Ravinet, P., R. Cos, M.Young (2020): The science and diplomacy of global challenges: Food security in EU-Africa relations. In: Young, M., T. Flink, E. Dall (eds.) (2020): Science Diplomacy in the Making: Casebased insights from the S4D4C project (Link)
- Poster Report: "The science and diplomacy of global challenges: Food security in EU-Africa relations" (Link)

#### 7.4 Open Science

Case author:

Katja Mayer, Centre for Social Innovation (ZSI)

Following the call for 'open science, open innovation, and open to the world' by the EU Commissioner for Research, Science and Innovation Carlos Moedas in 2015, we looked for applications and implications of open science in science diplomacy.

#### 7.4.1 The Science Diplomacy Dimension

Open Science (OS) is the idea that scientific knowledge of all kinds should be openly shared as early as is practical in the research process. OS is a very active international movement in a wide range of areas involving:

- Open Access to scholarly publications and data,
- Open Methods and Open Source,
- Open Evaluation,
- Open Infrastructures,
- Open Educational Resources, and
- Citizen Science.

In general, OS focuses on reproducibility, transparency, access and societal participation, and international cooperation.

As an international science policy area, it emerged around 2012, mainly driven by European Union research policies, but also pushed by the OECD and the G7. Europe is still striving to lead Open Science efforts.

Commissioner Moedas has outlined the leading role of Europe in the implementation of Open Science within the Responsible Research and Innovation (RRI) framework for research



and innovation funding. In the "Three O" (Open Science, Open Innovation, Open to the World) approach, the EC has defined a set of priorities to make Europe a stronger global actor through science and collaboration, thus highlighting core aspects of science diplomacy.

The COVID-19 crisis has also shown that cooperation at international level in research and innovation is more important than ever, including thorough open access to data and results. This was confirmed by Mariya Gabriel, Commissioner for Innovation, Research, Culture, Education and Youth in her S4D4C interview in October 2020:

"At the peak of the crisis, we established the Covid19 Data Platform to enable rapid collection and sharing of available research data, this is open to all our international partners."

Considering that science diplomacy is an important constituent of the "Open Science, Open Innovation, Open to the World" strategy, we asked: How has the strategy evolved? What measures were taken, and how were OS and SD brought together?

#### What the experts think

The lead author of this research case study, Dr Katja Mayer, has been interviewed to provide you with some key highlights.

	Katja Mayer
	Member of Open Knowledge and the Open Access Network Austria OANA, Centre for Social Innovation (ZSI)
-	What is Open Science and how does it link to science diplomacy?
	Video Link to YouTube
	What makes Open Science a good case to study science diplomacy?
	Video Link to YouTube

#### Read more!

You may get all the information about this S4D4C case study in the following references:

- Mayer, K. (2020): Open Science Diplomacy. In: Young, M., T. Flink, E. Dall (eds.) (2020): Science Diplomacy in the Making: Case-based insights from the S4D4C project (<u>Link</u>).
- Poster Report "Open Science Diplomacy" (Link).
- Mayer, K. (2020): Open Science Diplomacy to tackle the COVID-19 pandemic (Link)
- S4D4C stakeholder's voice: Insights from Commissioner Mariya Gabriel "Towards Science Diplomacy in the European Union" (2020) (Link)

#### 7.4.2 Research Methodology

It is important to highlight that none of the actors involved use the term Open Science Diplomacy. However, this notion provides a guide.

This case was a qualitative research study that used the following approaches:



- **Desk-based document analysis**: observing the Open Science policy arena as a potential site for science diplomacy, finding out also how international science policy and international scientific collaboration policy documents referred to open science.
- Participatory observation: between June 2018 and June 2019 in several setting in which the author is involved as an expert/rapporteur and active member: Horizon 2020 Policy Support Facility Mutual Learning Exercise on Open Science: Altmetrics and Rewards (2017-2018), and the Open Science Network Austria. Additionally, several conferences, workshops, and meetings dedicated to Open Science were attended and observed.
- Semi-structured interviews: a total of 23 semi-structured interviews were conducted with Open Science stakeholders from October 2018 to June 2019. Interviewees came from a variety of backgrounds: scientists, administrators, funders, policy makers, etc. and a range of organisations such as public administration, scientific management organisations, libraries, NGOs, and grassroots movements. Some of the participants added an extra-European perspective coming from Argentina, India, or Moldova. However, finding interview partners was not an easy task, especially persons from the fields of diplomacy of foreign relations were either too busy or in their own opinion "not knowledgeable enough" about Open Science to be available for an interview from 23 interviews only 3 persons have a traditional diplomatic background.



USING SCIENCE FOR/IN DIPLOMACY FOR ADDRESSING GLOBAL CHALLENGES





Figure 2: Governance level of interview partners' Open Science activities

The following research questions were considered:

- 1. How can Open Science be exploited for decision-making support, knowledge resources and science diplomacy governance frameworks?
- 2. How is the European Open Science strategy perceived and how can it be harnessed for foreign policy?
- 3. How can science diplomacy and Open Science mutually benefit from each other, while the modus operandi of the global science system is facing fundamental changes?



#### What the experts think

The lead author of this research case study, Dr Katja Mayer, has been interviewed to provide you with some key highlights.



#### Katja Mayer

Member of Open Knowledge and the Open Access Network Austria OANA, Centre for Social Innovation (ZSI)

How did you design the research for the case "Open Science"? Whom did you interview?

Video Link to YouTube

#### Read more!

You may get all the information about this S4D4C case study in the following references:

- Mayer, K. (2020): Open Science Diplomacy. In: Young, M., T. Flink, E. Dall (eds.) (2020): Science Diplomacy in the Making: Case-based insights from the S4D4C project (Link).
- Poster Report "Open Science Diplomacy" (Link).

#### 7.4.3 Main Findings

The main conclusions from this case study are as follows:

- The European Open Science priorities are under benevolent international observation, commitments are increasing, however the implementation is still cautious. Open Science Diplomacy can be defined today mostly as International political cooperation for the advancement of the transition towards Open Science, even though "science diplomacy" is not a term used very often in the realms of global Open Science. The impact of changes in the international science system on foreign relations is in some cases already tangible e.g. in the creation of international partnerships for the promotion of Open Access publishing or the exchange of Open Research Data.
- Open Science is rarely on the diplomatic agenda, and science diplomacy or diplomatic practice is only marginally used for international orchestration and coordination from science policy administrators, even though advocates would welcome the involvement of foreign policy actors. Their potential link was reflected in most case interviews as 'non-existent', 'un-anticipated', but 'interesting' and 'improvable'. This potential – for example to tackle societal challenges such as infectious diseases efficiently across borders - has not been harnessed yet, even though research policy makers and Open Science advocates are aware of it and have started to promote it.
- **Pressing issues**, like the harmonisation of standards and legal frameworks for the exchange of data ('data diplomacy'), **as well as new opportunities for innovation have not yet been discussed in the light of Open Science developments.**



- Rare involvement of diplomatic institutions, such as embassies, is mostly triggered by local advocates, such as library consortia, and is often not sustainable.
- Governance of international Open Science activities in the public sector varies greatly and is not standardised.
- International stakeholder landscapes have changed profoundly in the last 30 years, towards a broad variety of advocacy actors and policy implementing organisations (such as funders and research organisations) with the increased involvement of publishing and content service industries. Having said this, **many cross-border activities rely on informal and personal relationships.**

#### What the experts think

The lead author of this research case study, Dr Katja Mayer, has been interviewed to provide you with some key highlights.

Katja Mayer		
Member of Open Knowledge and the Open Access Network Austria OANA, Centre for Social Innovation (ZSI)		
What were your main findings regarding the science diplomacy dimension of Open Science? Video Link to YouTube		
<i>What are the main difficulties for a more integrated science diplomacy approach to Open Science?</i> <u>Video Link to YouTube</u>		

#### Read more!

You may get all the information about this S4D4C case study in the following references:

- Mayer, K. (2020): Open Science Diplomacy. In: Young, M., T. Flink, E. Dall (eds.) (2020): Science Diplomacy in the Making: Case-based insights from the S4D4C project (Link)
- Poster Report "Open Science Diplomacy" (Link)

#### 7.4.4 Main Recommendations

- 1. Open Science priorities should be **high on the agenda for international scientific cooperation** as they can help tackle societal challenges, define missions and realise the UN Sustainable Development Goals.
- 2. Open Science actors would **benefit from diplomatic skills** for multi-national, multistakeholder negotiations, so as to translate their needs into coherent sets of policies, monitoring measures, legal frameworks, etc.



3. Foreign policy actors need **tailored information and training about Open Science** in order to understand the potential both for their own interests and for the advancement of international scientific cooperation and innovation. Better explanation is needed to explain the relevance of Open Science for both international emergencies and tackling other grand societal challenges that we are facing today.

#### What the experts think?

The lead author of this research case study, Dr Katja Mayer, has been interviewed to provide you with some key highlights.

Katja Mayer
Member of Open Knowledge and the Open Access Network Austria OANA, Centre for Social Innovation (ZSI)
<i>What are your recommendations for a more relevant presence of Open</i> <i>Science in science diplomacy?</i>
Video Link to YouTube

#### Read more!

You may get all the information about this S4D4C case study in the following references:

- Mayer, K. (2020): Open Science Diplomacy. In: Young, M., T. Flink, E. Dall (eds.) (2020): Science Diplomacy in the Making: Case-based insights from the S4D4C project (Link)
- Poster Report "Open Science Diplomacy" (Link)

#### 7.5 SESAME

Case author:

**Charlotte Rungius,** German Centre for Higher Education Research and Science Studies (DZHW)

SESAME is a synchrotron light source user's facility in the Middle East. The international research centre was initiated with the explicit intention to foster scientific cooperation among a number of countries that share a history of conflict.

#### **7.5.1 The Science Diplomacy Dimension**

When in 1954, governments that nine years earlier were at war with each other established the European Organization for Nuclear Research (CERN), the initiative received praise from various parts of the world as a sign of hope. Its aim was to foster trust, international cooperation, and open up space for building mutual understanding across the borders of (formerly) conflicted parties on the common ground of scientific interest and research. Today, the Middle East as a current conflict-prone region has its own scientific cooperation project



across countries, in the form of a Synchrotron-light for Experimental Science and Applications, entitled SESAME.

On 3 November 2008 the SESAME building was inaugurated in the presence of UNESCO Director-General Matsuura and H.M. King Abdullah II (Shopper, 2017). This inauguration was preceded by decades of negotiations among scientists and politicians. Getting the current member states of Jordan, Turkey, Israel, the Palestinian Authority, Pakistan, Iran, Cyprus and Egypt together to agree on a joint facility required pressure from dedicated scientists and diplomatic sensitivity, with first negotiations starting as early as the 1980s. The political negotiations that underpin the international scientific cooperation of SESAME can be regarded as a classic example of "diplomacy for science". In turn, making use of research infrastructures for the benefit of international relations, intercultural understanding and economic and technological development for the region can be classified as "science for diplomacy".

Within the terminology of S4D4C, SESAME is considered primarily an instrument driven science diplomacy case, as opposed to science driven or foreign policy driven cases. Instrument driven cases refer to science diplomacy configurations that originate in funding mechanisms, science collaborations, or infrastructures. As reiterated by the author, SESAME's primary goal remains to serve the scientific community, rather than serve as a politicised instrument for foreign affairs. The case states: "if SESAME does not prove that it is able to produce competitive scientific results, it will also not be able to serve in diplomatic terms. SESAME will not be a credible science diplomacy case, if the scientific ambition is not considered paramount."

#### What the experts think

Learn from two experts about the SESAME case study.



Zehra Sayers
Former Chair of the Scientific Advisory Committee of the International Synchrotron Radiation Facility Project SESAME
What is SESAME and how does it relate to science diplomacy?



#### Read more!

You may get all the information about this S4D4C case study in the following references:

- Rungius, C. (2020): SESAME –a synchrotron light source in the Middle East: an international research infrastructure in the making. In: Young, M., T. Flink, E. Dall (eds.) (2020): Science Diplomacy in the Making: Case-based insights from the S4D4C project (Link).
- Poster Report "SESAME An international research infrastructure in the Middle East" (Link).
- Schopper, H. (2017): The light of SESAME: A dream becomes reality, DOI 10.1393/ncr/i2017-10134-8, (Link).

#### 7.5.2 Research Methodology

The case report is rooted in a threefold methodical approach. In the initial phase, the author conducted **desk research**, mainly on the evolution of SESAME. Generally, this came from journalistic sources as very limited academic research is available about the site itself.

The second phase was determined by the **generation of data**. Interviews were conducted with all stakeholder groups such as Council members and committee members, the current president, the director and members of the directorate level, engineers and beamline person responsible, scientific users, administration staff and one of the founding fathers of SESAME.

Thirdly, the author **visited the research site** and had the chance to attend the annual user's meeting in Jordan in December 2018. Another visit was paid to the Council meeting in December 2018 at UNESCO's headquarters in Paris, where additional interviews were conducted with Council representatives.

#### What the experts think?

Learn from the case author about SESAME.



#### **Charlotte Rungius**

Research Associate, the German Centre for Higher Education and Science Research (DZHW)

How did you design your research? What type of stakeholders did you interview?

Video Link to YouTube

#### Read more!

You may get all the information about this S4D4C case study in the following references:

- Rungius, C. (2020): SESAME –a synchrotron light source in the Middle East: an international research infrastructure in the making. In: Young, M., T. Flink, E. Dall (eds.) (2020): Science Diplomacy in the Making: Case-based insights from the S4D4C project (<u>Link</u>).
- Poster Report "SESAME An international research infrastructure in the Middle East" (Link).



#### 7.5.3 Main Findings

SESAME's reputation as a unique science collaboration and science diplomacy effort in the Middle East would not have been possible without both the commitment of a small number of recognised physicists, and the financial and diplomatic contribution of the United Nations Educational, Scientific and Cultural Organization (UNESCO) as well as the European Union (EU). In addition to the political commitment of today's **member countries Cyprus, Egypt, Iran, Israel, Pakistan, Palestine, Turkey and Jordan**, science associations and synchrotron facilities from Europe also played a crucial part in the establishment of SESAME, both at a national and supranational level, namely CERN, ESFR, the Helmholtz Foundation (with DESY and BESSY), SOLEIL and many others.

Similar to the goals of CERN, SESAME's primary goal is to serve a scientific purpose in the form of a users' synchrotron facility and in doing so it involves international actors and requires unique forms of international cooperation. Being the **first synchrotron in the Middle East region**, it maintains enormous potential with regards to furthering individual disciplines and research fields as well as strengthening the community of researchers in the region as a whole. Furthermore, the project's second aim to prevent brain drain and enable "brain circulation" appears to be showing its first results, according to the author.

In addition to CERN, SESAME is frequently mentioned as an example for successful science diplomacy in action. However, paradoxically, the author argues that SESAME will be most effective in its science diplomacy effort if it does not try to be a science diplomacy effort at all. It should continue to focus on its scientific core purpose: providing a research facility and advancing the research community in the region. The public narrative and expectation for SESAME as an **instrument for purposefully bringing people together and building bridges** has been interpreted at times as a political agenda. This is sometimes perceived as standing in opposition to SESAME's scientific objectives.

#### What the experts think

Learn from the case author about SESAME.



#### **Charlotte Rungius**

Research Associate, the German Centre for Higher Education and Science Research (DZHW)

What are your main findings? Could science diplomacy be better embedded in the project?

Video Link to YouTube

#### Read more!

You may get all the information about this S4D4C case study in the following references:

Rungius, C. (2020): SESAME –a synchrotron light source in the Middle East: an international research infrastructure in the making. In: Young, M., T. Flink, E. Dall (eds.) (2020): Science Diplomacy in the Making: Case-based insights from the S4D4C project (<u>Link</u>).



Poster Report "SESAME – An international research infrastructure in the Middle East" (Link).

#### 7.5.4. Main Recommendations

Based on the analysis of the evolutionary steps of SESAME, the author provides four key recommendations:

- 1. Further **increase the awareness of the benefits of SESAME** in the Middle East. As intended by its founders, the project's community of physicists and researchers could be further enlarged.
- Even though effective funding, among others by the European Union, has contributed to the success of SESAME so far, the support for the international self-governing synchrotron community and the cooperation among researchers needs to be sustained.
- 3. Avoid prioritising and placing the political aspects of SESAME's vision over the scientific results that the project intents to generate in order to justify its standing worldwide. In the worst case, if SESAME showcases an overly explicit ambition of overcoming difference and peace-making, it might just attract the staging of political conflicts. If SESAME is to follow the example of CERN, this means that it has to continue to consolidate the scientific effort before anything else. SESAME and its staff should be supported in exactly this effort.

#### What the experts think

Learn from an insider expert about the SESAME case study.



#### Zehra Sayers

Former Chair of the Scientific Advisory Committee of the International Synchrotron Radiation Facility Project SESAME

*Could you please explain your experience with SESAME?* <u>Video Link to YouTube</u>

#### Read more!

You may get all the information about this S4D4C case study in the following references:

- Rungius, C. (2020): SESAME –a synchrotron light source in the Middle East: an international research infrastructure in the making. In: Young, M., T. Flink, E. Dall (eds.) (2020): Science Diplomacy in the Making: Case-based insights from the S4D4C project (Link).
- Poster Report "SESAME An international research infrastructure in the Middle East" (Link).



#### **7.6 Designing a European Health Diplomacy**

Case author:

<u>Céline Paillette</u>, InsSciDE case study written as PhD Candidate in History of International Relations at University Paris 1 Panthéon-Sorbonne, UMR Sirice

This InsSciDE case study covers the roots of Global Health Diplomacy in the management of the 1899 plague epidemic in Oporto.

#### **7.6.1** The Science Diplomacy Dimension

Studying the plague that ravaged the port city of Oporto, Portugal at the turn of the 20<sup>th</sup> century first confronts us with a plethora of diverse **stakeholders implicated at multiple levels**: state and private, local and international, spanning from diplomatic agencies to scientific and medical experts. Analysing the role of each of these actors in the management and containment of the epidemic gives us a view on the science and the diplomacy dimensions of the events.

Looking back at the 1899 plague in Oporto also means examining what happened at the time in terms of the globalisation of epidemics and the internationalisation of health regulations. Céline Paillette investigates the **presence of diplomacy** particularly – but not only – in the sense of state-enacted foreign policies, and looks at the ways in which that kind of State Health Diplomacy might have nourished what is today termed Global Health Diplomacy.

As a historian and specialist of international relations, Céline Paillette approaches the case analysis with **multiple questions**. How did the various fundamental forces in international relations influence...

- the diplomatic measures taken in order to control the epidemic in Oporto?
- the international construction of knowledge about epidemics?
- the harmonization and standardization of prophylactic practices?

Moreover, what was the weight of public opinion on the enactment of sanitary measures such as the closing of ports, the isolation of individuals, or inspection and disinfection?

To what extent were the practical field experiments in bacteriology conducted by foreign and local experts, as well as the implantation of therapeutic and preventative treatment, part of a thought-out strategy of diplomacy at state level? To what extent did the "diplomatic machine" guide and support said strategy?

Finally, in what ways did the various national interests at play align with a common, global interest? What was the place of global interest in the make-up of national interests and state foreign policies?

The historian's questions illuminate the **need for a multidimensional analysis and understanding of the 'science diplomacy dimension'**, informed in Céline Paillette's work by tenets of international relations and by the examination of original sources.



#### 7.6.2 Research Methodology

Paillette's general research methodology is that employed by historians, with particular emphasis on the construction and analysis of an archival collection of primary sources. For her plague in Oporto study, she retrieved **sources** such as the archives of the French Ministry of Foreign Affairs or the Pasteur Institute, alongside additional printed sources (published reports, journal and newspaper articles, etc.). Her analysis also takes into consideration the work of recent historians.

The specific approach is that used in the **history of international relations**, in the renewed tradition of Pierre Renouvin. Such a historiography, aiming to be comprehensive in scope, includes the analysis of decision-making processes, taking into account not only the weight of political events but also of the "profound forces" (economic, social, etc.) and the different flows (knowledge, practices, etc.) that shape long-term relations between states, peoples, and societies.

In addition, special attention is paid to the stakeholders of a **global health diplomacy** and to the different scales of this diplomacy. Mapping the various actors involved in the epidemic crises is crucial.

#### 7.6.3 Main Findings

International cooperation in the fight against epidemics has a long history. As world trade intensified in the second half of the 19th century, so did the international flow of information on epidemics — specifically plague, yellow fever and cholera. An effort was made at the time to collect, share and standardize this information between different states, especially between diplomatic and health administrations. By the time of the outbreak of plague in Oporto in 1899, international health regulations had already been drawn up in order to harmonise quarantine, inspection and disinfection measures. This cooperation was done in the name of a **dual-pronged common interest**: both the protection of public health and the preservation of economic interests. The main idea was that it was necessary to prevent the spread of diseases while still allowing the flow of people and goods to take place. Such cooperation was dependent upon not only scientific and technological background, but also the economic and political context of international relations. Over the course of time, and in light of multiple epidemics and experiences of cooperation, international institutions to facilitate these goals emerged: an example is the International Office of Public Hygiene in Paris, founded in 1907, which is considered to be a distant precursor of the WHO.



Learn from this InsSciDe case study author.



#### Céline Paillette

PhD Candidate in History of International Relations at University Paris 1 Panthéon-Sorbonne, UMR Sirice

<u>Video Link to YouTube</u>

#### 7.6.4. Main Recommendations

While in 2020, in the context of the COVID-19 pandemic, many readers might be tempted to draw out science diplomacy recommendations from the case of the plague in Oporto, the historian for her part does not project her observations of the past into the present day. Céline Paillette does reflect however that **'this case study shows the importance of international exchanges for the management of an epidemic outbreak**: exchange of information, scientific collaborations, harmonization of health standards. These exchanges and cooperation are needed during a crisis, but also long before, upstream from the outbreak. Both crisis negotiations, and negotiations over the longer term are essential for the management of pandemics.'

Céline Paillette also provides **a rich sample bibliography** (with open access links) for those who wish to go further in understanding the Oporto case and global health diplomacy. Elements of her comprehensive historical account of international cooperation in health diplomacy, in and beyond Europe, will be published as an InsSciDE case for study and teaching in 2021.



#### Read more!

#### General Background

- Myron Echenberg, *Plague Ports: The Global Urban Impact of Bubonic Plague, 1894-1901,* NYU Press, 2010 (Link).

#### Historiography – History of international relations and history of diplomacy

- Robert Frank, *Pour l'histoire des relations internationales*. Presses Universitaires de France, 2012, and in particular Chapter 21 by Jean-Claude Allain, Laurence Badel, « L'appareil diplomatique », pp. 475-510. DOI : 10.3917/puf.frank.2012.01.0475. (Link).

#### A view on Disease Diplomacy in the 21st century

- Sara E. Davies, Adam Kamradt-Scott, and Simon Rushton, <u>Disease diplomacy : international norms and</u> <u>global health security</u>, in particular the Introduction. (<u>Link</u>).

#### Epidemic diseases and international relations

- Mark Harrison, Disease, diplomacy and international commerce: the origins of international sanitary regulation in the nineteenth century. Journal of Global History, <u>Volume 49</u>, <u>Issue 2</u> June 2006, pp. 453-476. DOI: <u>https://doi.org/10.1017/S1740022806000131</u>

- Valeska Huber, The Unification of the Globe by Disease? The International Sanitary Conferences On Cholera, 1851–1894. The Historical Journal, <u>Volume 49</u>, <u>Numéro 2</u>, June 2006, pp. 453-476. DOI: <u>https://doi.org/10.1017/S0018246X06005280</u>

#### Health diplomacy and international organizations - including European issues

 Céline Paillette, « Diplomatie et globalisation des enjeux sanitaires. Camille Barrère, un itinéraire diplomatique du Caire à l'Office international d'hygiène publique (1883-1926) », *Hypothèses*, 2014/1 (17), p. 129-138. DOI : 10.3917/hyp.131.0129. (Link).

- Céline Paillette, « L'Europe et les organisations sanitaires internationales. Enjeux régionaux et mondialisation, des années 1900 aux années 1920 », *Les cahiers Irice*, 2012/1 (n° 9), p. 47-60. DOI : 10.3917/lci.009.0047. (Link).

- Céline Paillette, « Épidémies, santé et ordre mondial. Le rôle des organisations sanitaires internationales, 1903-1923 », *Monde(s)*, 2012/2 (N° 2), p. 235-256. DOI : 10.3917/mond.122.0235. (Link).

- Céline Paillette, « De l'Organisation d'hygiène de la SDN à l'OMS. Mondialisation et régionalisme européen dans le domaine de la santé, 1919-1954 », *Bulletin de l'Institut Pierre Renouvin*, 2010/2 (N° 32), p. 193-198. DOI : 10.3917/bipr.032.0193. (Link).

#### 7.7 UN Convention on the Law of the Sea

Case author:

<u>Sam Robinson</u>, case study written as Post-doctoral Research Fellow, the Centre for the History of Science, Technology, and Medicine (CHSTM), University of Manchester

This InsSciDE case study delves into the co-production by scientists and diplomats in the 1960-70s of new definitions for global ocean space so that it could be governed in new more expansive and potentially equitable ways.



#### 7.7.1 The Science Diplomacy Dimension

Ocean-centred science diplomacy in the 1960s-70s was driven by the concept of the **ocean as a new frontier** filled with abundant non-living resources. These ideas implied to the public, industry, politicians and military leaders that the oceans held great potential for humankind, to be unlocked by new scientific knowledge and emergent technological capabilities. This new technology-driven oceanic age had implications for national security, freedom of marine scientific research, new economic development, and protection of the marine environment.Emerging submarine military capabilities in the oceans were facilitated by the latest discoveries of marine scientific research, whose centralization in the hands of the powerful industrialised nations and their formidable nuclear navies further stoked north- south conflict. This power disparity became particularly clear with seabed mining, where the potential extraction of manganese nodules drove a perception of technological advance far beyond actual capability.

During the 1960s renewed interest in the oceans and new knowledge simultaneously evolved into a serious diplomatic challenge for the United States, and ultimately, through debates at the United Nations, for the entire globe. Edward Wenk Jr, the ocean science advisor to the Kennedy, Johnson, and Nixon administrations, encapsulated the impact:

[I]n an unwitting scramble for riches, Pandora's Box was opened in terms of such questions as who owns the sea and seabed."

This scramble was based on the idea that exploiting deep-sea marine resources would use *anticipated*, rather than *actual* new technologies. Developing nations, often newly independent of colonial rule and desperate to attract foreign currency through resource-based industries, had not previously been focused on marine issues, but the idea of immense ocean riches provided them with powerful images. In an era when the superpowers sought rare minerals such as cobalt to use in the high technologies of the Cold War, caches of minerals took on geostrategic implications.

In this turbulent atmosphere the international community worked throughout the 1970s to co-produce international law, resolve diplomatic tensions, and utilise both science & technology **to define ocean space so that it could be governed in new more expansive and potentially equitable ways**. As a case study it therefore provides a useful example of science diplomacy at both the global scale and in all of its various modes: science for diplomacy, science in diplomacy, and diplomacy for science.



Learn from this InsSciDe case study author.



#### Sam Robinson

Post-doctoral Research Fellow, Centre for the History of Science, Technology, and Medicine (CHSTM), University of Manchester

Why does science diplomacy on the global ocean matter? Video Link to YouTube

#### 7.7.2 Research Methodology

Robinson's research focuses on an essential question: **how does science diplomacy deal with future projections of scientific and technological capability?** 

Here Robinson considers the relationship between sociotechnical imaginaries (Jasanoff & Kim, 2009) and science diplomacy. Jasanoff and Kim define sociotechnical imaginaries as:

`...collectively imagined forms of social life and social order reflected in the design and fulfilment of nation-specific scientific and/or technological projects. Imaginaries, in this sense, at once describe attainable futures and prescribe futures that states believe ought to be attained.'

Jasanoff & Kim (2009) "Containing the Atom: Sociotechnical Imaginaries and Nuclear Power in the United States and South Korea" Minerva Vol. 47, No. 2 (June 2009), pp. 119-146

The connection between scientific-technical futures and nation states reveals the power that imaginary visions can have. From these visions emerge policies that in turn influence the evolution of technology, government grants, and the relationship between science, technology, and democracy (through the inclusion or exclusion of citizens from these projects).

All visions of the future are fiction, and using historical hindsight to study the 'accuracy' of such predictions is analytically redundant. Rather, sociotechnical imaginaries have agency in the moment of their creation and shape policy debates as objects that perform within their specific political-social-cultural contexts. They are publicly visible and thus orchestrate change within social systems even when international relations remain unchanged.

As Jasanoff and Kim have suggested, **sociotechnical imaginaries fabricate power within the political state** that can far outweigh the actual abilities of science and technology at the time. Imaginings of technical prowess can far outpace the current state of science and technology, and it is in this blending of present capability and imagined attainable futures that a great deal of power is formed from human imagination.

Technologies do not emerge in isolation. There are always multiple technological options being introduced at the same time, but only some are ultimately "successful". A technology



developed in one place is likely to spread quickly, or be used in – or against – another state, and the loci of technological development might move from an established national centre to an emerging one.

Robinson argues that when similar technological imaginaries align, they tend **not to create controversy between nations**; whereas disagreements over intended uses and futures of science and technology can spill over into broader international disputes. Where there is discord between nations regarding the use of a technology, the resulting imaginaries – connected by science but divergent due to their ideological and national contexts – will inevitably become a site of conflict in the international arena.

Robinson thus advocates a transnational rather than a comparative approach – as utilised by Jasanoff and Kim – in order to fully analyse the impact of sociotechnical imaginaries in science diplomacy within the global sphere.

#### 7.7.3 Main Findings

In the case of the ocean futures and the UN Law of the Sea, multiple sociotechnical imaginaries of ocean science and technology emerged from a more general re-imagining of the oceans during the mid-20<sup>th</sup> century. These sociotechnical imaginaries were used to proselytise **underwater habitats**, endless living and non-living resource extraction, and expanded uses of the deep seabed. Whilst in developed nations such as the United States these visions positively drove the evolution of ocean politics, in the less developed world these imaginaries and the policies they engendered a more cautious and often negative response.

Developing countries moved to assert their territorial rights on the continental shelf, in an attempt to avert **a new ocean colonialism**. Nations of the global south considered their lack of marine scientific and technical development as a barrier to their maritime economic development. Only by denying developed nations access to exploit other coastal nation's marine resources did developing nations feel able to avoid a new age of ocean imperialism.

Environmental NGOs had an unexpected but **significant role in bringing science into the Law of the Sea negotiations**, infusing issues such as environmentalism into debates about resource use and distribution. Often, they worked together to advocate for causes that seemed very peripheral to the goals of industrial and developing nations regarding ocean boundary making.

Over time these NGOs did begin to foster their own visions – indeed imaginaries – of **how global ocean governance could be organised**. For example, the newly independent island state of Malta, through the work of Arvid Pardo and Elizabeth Mann Borgese, attempted to shift the focus towards a global imaginary of peace in the oceans, fearing that the competing imaginaries could be the basis for a new conflict centred on the ocean. But the oceans never became Borgese's "laboratory for the making of a new world order."

Divergent national imaginings of the uses, capabilities, and purposes of marine science and technology drove the south-north discord that deepened during the later Law of the Seas conferences. The catalyst for the Third Law of the Sea negotiations was the sociotechnical imaginaries of the nations of the world, and it was their politics that



ultimately dominated the final legal settlement. Nations that could realistically envisage moving into the ocean space had the scientific capacity to create new underwater and surface-based ocean cities, and could conceive of the riches coming from deep-sea resource exploitation by companies based in and aligned to their nation states.

#### What the experts think

Learn from this InsSciDe case study author.



#### Sam Robinson

Post-doctoral Research Fellow, Centre for the History of Science, Technology, and Medicine (CHSTM), University of Manchester

How does science diplomacy deal with future projections? Video Link to YouTube

#### 7.7.4. Main Recommendations

For science diplomacy, sociotechnical imaginaries can be utilised to set common international goals whilst also, and often simultaneously, causing fissures that lead to divergent visions of the future that cannot be easily aligned. Science diplomacy is often claimed to be capable of forming collective international visions, yet science diplomacy is also in operation when scientific and technological developments are the drivers for mistrust and reactionary policies. The future is unknowable, yet it is the greatest challenge to science diplomacy making. Despite the future's innate uncertainly, it is vital for historians, science diplomats, and scientists, to understand the power that sociotechnical imaginaries have in making the present.

#### What the experts think

Learn from this InsSciDe case study author.



#### Sam Robinson

Post-doctoral Research Fellow, Centre for the History of Science, Technology, and Medicine (CHSTM), University of Manchester

What has changed in the years since those imaginaries emerged? Video Link to YouTube



#### Read more!

- General Website: Link

- Arvid Pardo's speech before UN General Assembly 1<sup>st</sup> Nov 1967 - (Link).

- Sam Robinson (in press, 2020) 'Scientific Imaginaries and Science Diplomacy: The Case of Ocean Exploitation,' *Centaurus*. Special Issue: 'Global perspectives on science diplomacy in the twentieth century: Actors, organizations, States' (M. Adamson and R. Lalli, guest editors)

#### **7.8 Question Time**

#### 7.8.1 Brainstorming Questions

Here is a list of questions designed to help you reflect on these case studies and research on science diplomacy more generally. Please, take some time to think about them.

- Would you be able to extrapolate any of these learnings to your field of expertise?
- What are the governance arrangement in your country regarding infectious disease, food security or open science?
- How much of an understanding of science diplomacy as a concept and practice is there in your country?
- To what extent do you think that the EU is influencing national arrangements for these matters (infectious disease, food security or open science)?

#### *Let's see how much you've learnt – Quiz Time: Case Studies*

Please, take this quiz to evaluate how much you have learnt. You need to get 8 questions right out of 10 in order to move to the next module. You can take the quiz as many times as needed.

Remember to choose the right option in each question unless stated otherwise in the question.

### <u>Question 1</u>. S4D4C has conducted nine empirical case studies in order to understand...

a. Different science diplomacy practices in place between the five different countries of the study

b. How the EU imposes certain actions in Member States



c. The science advice process, the role of diplomats and politicians, the relations between large industry and SMEs

d. The use of knowledge, the relations between governance levels and how the case improves or changes our understanding of science diplomacy

### <u>Question 2</u>. The transversal analysis of all nine S4D4C case studies suggests that...

a. There is usually just one actor involved in the matter per country

b. Social sciences and humanities are the only scientific discipline that may shed light onto the whole understanding of the matter at hand

c. All actors involved in the matter have a common understanding of what science diplomacy is about and what it entails

d. None of the above

### <u>Question 3</u>. The analysis of Zika outbreak in the EU and certain Member States has concluded that...

a. The Zika outbreak has drastically changed the European or national reaction to global health issues. It set new institutional platforms, mechanisms and narratives

b. The Zika outbreak has not changed the European or national reaction to global health issues. Its response was based upon already existing institutional platforms, mechanisms and narratives

c. The Zika outbreak has altered the European or national reaction to global health issues fostering more interconnection and coordination between far-distant member states

d. The Zika outbreak has not affected any European country

### <u>Question 4</u>. When assessing the response to Zika outbreak from certain Member States, S4D4C identified that...

a. Zika did not spread between countries with strong bilateral cooperation

b. The Science diplomacy managed to combine the narrative from the World Health Organisation, the European Union, and national member states

c. Science diplomacy continues to operate within the general national diplomatic narrative of a country

d. The Zika outbreak brought together Member States to build up a EU science diplomacy overall approach

### <u>Question 5</u>. Which actor(s) are mentioned in determining the Horizon 2020 programmes related to food security?

a. Several Directorate Generals (Research and Innovation – RTD)

b. Two European External Action Service (EEAS) directorates



- c. The EU Delegation to the African Union
- d. All of the above

### <u>Question 6</u>. According to the authors' recommendations, how might food security be more effectively achieved in Africa?

- a. The EU should develop a single definition of science diplomacy
- b. All EU delegation across the globe should have a "science diplomat"
- c. Closer alignment between the institutions in charge of science policy and foreign policy
- d. Allow Genetically Modified Organisms (GMOs) across all member states of the EU

# <u>Question 7</u>. The S4D4C analysis of "Open Science" concludes that Open Science, considered as the policy to make scientific knowledge of all kinds openly shared as early as is practical in the research process, is...

- a. Mostly defined as international science policy cooperation
- b. A fundamental part of economic and innovation diplomacy
- c. Very present on the diplomatic agenda
- d. All of the above

### <u>Question 8</u>. According to the recommendations coming from the S4D4C case study of "Open Science", further training is required for...

a. Only foreign policy actors need further training to better liaise with Open Science: in particular they need an understanding of its interests and its potential to address international emergencies and grand societal challenges

b. Only Open Science actors need further training to better liaise Open Science: in particular, they need to understand multi-national and multi-stakeholder negotiations

c. Both Open Science actors and foreign policy actors need further training, so the former can acquire more diplomatic and negotiation skills and the latter can better understand the potential both for their own interests. It is also necessary for the advancement of international scientific cooperation and innovation, as well as in addressing international emergencies and grand societal challenges

d. None of the above

#### Question 9. What are the current member states of SESAME?

- a. Cyprus, Egypt, Iran, Israel, Pakistan, Palestine, Turkey and Jordan
- b. Egypt, Iran, Israel, Pakistan, Palestine, and Jordan
- c. Cyprus, Egypt, Iran, Pakistan, Palestine, Turkey and Jordan
- d. Cyprus, Egypt, Iran, Israel, Pakistan, Palestine, Turkey and Jordan, the EU members



#### **Question 10**. In what year was the SESAME building inaugurated?

- a. 1992
- b. 2008
- c. 1954
- d. 2018



#### **Quiz Solution**

1d			
2d			
3b			
4c			
5d			
6c			
7a			
8c			
9a			
10b			